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"Scire est nescire, nisi id me
Scire alius sciret."

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THE PRESENT POSITION OF THE SURGERY OF MALIGNANT GROWTHS.

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BY

CHARLES A. MORTON, F.R.C.S.,

Professor of Surgery in the University of Bristol.
Senior Surgeon to the General Hospital, and the Royal Hospital for Sick Children and Women.

IT is often difficult to say anything worth saying when one is expected to give an address, and one's utterance is not the outcome of the ideas which one wishes to express. I do not wish simply to interest you with a subject which would be of no value when we had considered it, nor do I think I ought to make this address an opportunity for a new communication on a technical subject. I thought perhaps I should not be wasting your time if I spoke of the present position of the surgery of malignant growths. In looking through the subjects which past Presidents of this Society have taken for their addresses, I find that more than twenty years ago Mr. Dobson gave an address on some "Surgical Aspects of Carcinoma," and I

felt that after the lapse of twenty years the subject might well be again considered.

As the years go by surgeons more and more become impressed with the need for very extensive removal in dealing with a malignant tumour; they remove the surrounding parts more widely, and they follow the glands farther and farther away from the primary growth. I might give you illustrations of this in connection with the removal of malignant growths from almost all parts. Most surgeons now remove the great pectoral muscle in excising a cancerous breast, and some of us go farther, and as a routine practice clear out the supra-clavicular glands as well as the axillary, whether we can feel them to be enlarged or not, and in so doing sometimes remove glands already cancerous, but which could not be felt to be enlarged before operation. In operating for cancer of the uterus, much better results as to non-recurrence have been obtained by removing the cellular tissue around the lower segment of the uterus, and also the pelvic glands by the abdominal method of operating, than in the method of simply removing the uterus alone. Within a very short period of the removal of a cancer of the tongue, some of us now remove the set of glands in which recurrence is likely to take place, and do not wait for evidence of such recurrence.

Not only do surgeons remove the tissues more widely than they did a few years ago when operating for excision of malignant growths, but in some cases they remove the whole organ affected. We have been familiar with such a procedure in connection with cancer of the stomach for many years, but it is perhaps hardly so well known that the bladder has been removed in several cases after transplantation of the ureters. In certain situations in the bladder a malignant growth can be excised, together with a portion of the bladder wall; but if it involves the base extensively, resection of the whole organ may be the only possible way of removing it. In the female the ureters are transplanted into the vagina, and in the male the best plan seems to be to implant them on the skin of the loin at a preliminary operation. The mortality is high, but the chances of

non-recurrence ought to be much better than after partial resection of the bladder wall.

To see cases of malignant disease recurrent after operation, and for which nothing further can be done, with their hopeless outlook—a condition almost always known to the patient—and in some cases the great suffering associated with such recurrence, is enough to stimulate us to take any conceivable step to prevent it. It should make us cut as far from the disease as we possibly can, without seriously endangering the patient's life, or sacrificing important organs or other useful parts; and in the case of malignant growth in a limb the question of amputation will have to be considered.

The great problem we have to face is how far we ought to incur this risk to life, and to what extent remove important structures to try and prevent recurrence. Let us consider the risk first. In operating for cancer of the breast we can cut very widely of the disease with very little risk, and every surgeon knows how by extensive undermining of the skin we can get it together in a way which would certainly much surprise anyone not accustomed to see such an operation; and the removal of the supra-clavicular glands adds very little risk indeed to the operation, provided that they are not fixed in the neighbourhood of the large veins at the root of the neck. The modern complete operation for cancer of the breast is necessarily a rather long procedure, but serious shock is quite the exception, and I have only had one death directly due to the operation in more than 110 cases,[1] and in almost half of these I have excised the great pectoral muscle as well as a large area of skin around the growth, and in a large number have also removed the supra-clavicular glands. In one case I removed at the same operation both cancerous breasts, both great pectorals, and cleaned out both axilla without marked shock in a woman 66 years of age.

[1] In the case of death directly due to the operation the wound was infected from an ulcerating growth, and the woman died from the sepsis. One woman died from the anæsthetic just as I commenced my incision. Two women died within a month of the operation after their wounds had healed, one of intrathoracic and one of abdominal disease, and in neither case was death due to the operation.

But when we come to deal with growths of the colon and rectum, extensive removal does add to the risk; and the question as to the advisability of extensive gland removal in these cases is a very important one, and in connection with it we have very seriously to consider what increased risk to life is involved in such a proceeding. In all operations for malignant disease there must be a group of glands liable to infection beyond the reach of surgery. Even if we excise the supra-clavicular glands in cancer of the breast, there may be infection of the mediastinal glands behind the upper end of the sternum, and in cancer affecting the colon the glands may be infected as high up as the cœliac axis. We can never, therefore, be absolutely certain of eradicating every trace of gland infection; but obviously the farther we can get above the disease the better our chance of preventing recurrence. It seems to me that a good rule to follow would be to remove every gland that might possibly be infected, until we reach a group the removal of which would be attended with distinct risk, and then to stay our hand. If we knew that the higher glands were already infected, we might perhaps wisely take an increased risk and remove them; but we must remember that often glands are found moderately enlarged in connection with malignant disease—at any rate, when the growth is in the colon—which microscopic examination does not show to be malignant. But such glands have not the marked hardness often present in cancer.

Now the removal of glands from above the growth, in cases of cancer of the colon, necessitates the removal of a much larger area of the colon (and sometimes also of part of the small intestine) than is really necessary to get well away from the disease in the bowel-wall, because in order to remove these glands a large area of the mesocolon has to be removed, and thus the vascular supply to a considerable length of bowel interfered with. Thus in cancer of the cæcum some surgeons now not only remove the cæcum, but also the ascending colon and the lower and of the ileum, because they think it well to remove the meso-colon containing the glands to which the lymphatics of

the cæcum run, and in doing so they must remove the ileo-colic artery, on which the vascular supply of this extensive length of bowel depends. Obviously such extensive glandular excision is admissible if it does not add considerably to the shock of the operation. The mere removal of the greater length of bowel is not a serious thing. The bowel has only to be divided in two places, as in excision of the cæcum alone ; but there is extensive stripping up of the meso-colon containing the glands, and its high division and these conditions might increase shock. I think only further experience of this extensive gland removal can decide whether or not it should be carried out as a routine measure. I am now speaking of groups of glands either not enlarged at all or not to any extent. If one had to deal with probably malignant glands, then clearly it would be wise to take the risk, unless the glandular enlargment was so high up that it was quite a question whether even then malignant glands would not be left behind.

I should like to speak at greater length about the removal of one form of malignant growth of which I have had a fair amount of experience. I mean cancer of the rectum. It is very interesting to trace the evolution of the operation for its removal. Many of us remember the time when we dared not open the peritoneum. Occasionally it was opened by accident, but with much fear and trembling, and was immediately closed by suture. All cases of high cancer were abandoned to their fate. Then came Kraske's operation, and we deliberately opened the peritoneum and removed the high growths. Now I must say I have not found reason to be so dissatisfied with Kraske's operation as some surgeons are in respect of early recurrence, for several of my cases passed the three years' period without local recurrence, nor was my mortality from the operation great. But most of the local recurrences I have had have been in the bowel, and therefore it seems to me obviously desirable to remove a greater extent of bowel than can be done by a Kraske's operation, and I have now abandoned Kraske's operation in favour of the abdomino-perineal method. The whole rectum and pelvic colon is removed, and with it all the

possibly infected glands in the meso-rectum and meso-colon. I am quite certain of this, that it is never wise to undertake any operation for cancer of the rectum without opening the abdomen to first discover the extent of the disease. You may find secondary nodules on the liver, which you could not feel through the abdominal wall; you may find, as I did on one occasion, a group of hard glands so high up in the meso-colon that it may be necessary to remove the meso-colon with the colon attached to it, as high as the origin of the inferior mesenteric artery, so as to get away the glands; or as I found in another case, a small infected gland may be present in the meso-colon near the bifurcation of the aorta, and this necessitated the resection of the base of the pelvic meso-colon, and as this contained the vessels supplying the pelvic colon, that had to be removed also, but such removal is a routine proceeding in the abdomino-perineal operation. Then again, from the interior of the abdomen you may discover fixation of the cancerous growth in the rectum to the bladder or uterus, and it then may or may not seem desirable to continue the operation, and remove such a growth, with perhaps a portion of the bladder or the whole uterus. Suppose you were to try and excise such a growth from the sacral aspect, what horrible difficulties you would soon get into. Even when working from the abdominal aspect, it may be most difficult to say whether the growth is only adherent to the bladder or uterus, and can be separated, or whether it really infiltrates them; so that if the growth is removed an extensive resection of the bladder wall must be made, or hysterectomy performed.

But by the abdominal method we sometimes find that a growth, apparently fixed on rectal examination, is not really fixed, and is removable. Now having opened the abdomen, and found that the growth is limited to the rectum, what advantage is there in excising it by the abdominal route? The great advantage seems to me to be that you can remove a greater length of the bowel above the growth, and clear out a large area of glands which are possibly if not evidently affected. This large area of glands could not possibly be removed by the

sacral route, though you may suggest that a considerable length of bowel could be removed from above the growth by the sacral operation. But I find that it is impossible to do so without seriously interfering with the blood supply of the end of the colon which is dragged down, and this means that if you unite the divided ends, or even if you simply bring the cut end out below the cut surface of the sacrum, and make an artificial anus there, you will run great risk of sloughing of the end of the bowel. If you have united the ends the result of such sloughing is that the union gives way, that fæces are freely discharged through the wound for a time, and the wound is a very long time healing. In most cases union between the divided ends does eventually take place, but not in all: and if you fix the end of the bowel to the skin below the sacrum, the part thus attached may slough away, and eventually only a track remains in scar tissue, leading from the surface to the bowel, which will tend greatly to contract, and this of course is very unsatisfactory. But if we divide the colon in the iliac fossa, and bring out the upper end there, we run no risk of sloughing if we are careful not to interfere with the blood supply by an unwise line of section through the meso-colon, and an iliac artificial anus is more readily attended to by the patient than a sacral one; and, moreover, a pneumatic pad can be fixed over the opening by means of an abdominal belt.

But you may suggest that it is much better to make a union of the bowel, and secure the normal sphincter action in cases in which the growth is quite high up, and therefore in which a fair length of bowel can be left between the cut section and the anus. I have done this in most of my cases of Kraske's operation, and in some with a most excellent ultimate result, so that the patients had complete control after the operation, and I have only abandoned this method after much consideration.

It seems to me that looking at the fact that we can never be sure of the ultimate result in these cases (*i.e.* whether complete union will eventually take place), and that the bowel always gives way posteriorly soon after the operation, and a

fæcal fistula forms, at any rate for a time, which makes convalescence very protracted, it is really better to cut very widely of the growth above, and remove all the section below, and clear out the glands in the way I have already mentioned, than to unite the divided ends even in very high cancerous growth; and in my opinion the recommendation of Mr. Miles that in an operation for cancer of the lower part of the rectum the levatores ani should be cut as far from the rectum as possible, is a very wise one, for recurrence takes place in some cases not in the end of the bowel, but in the surrounding tissues.

But how about the increased risk of these more extensive procedures—I mean high division of the bowel, with removal of the whole rectum and the gland area? No doubt there is a very decided increase in the risk, and the cause of that increased risk has been carefully considered. Some statistics have shown that it has been much greater in men than in women, and the explanation has been given that this is because the pelvis is deeper in men than in women, and therefore that operative manipulation is more difficult, and also that men stand all kinds of pelvic operations worse than women. Though a difference in the shape of the pelvis in males may account for some amount of increased difficulty in manipulation, this would not be sufficient to make a decided difference in the mortality, and it simply is not true to say that men stand pelvic operations worse than women. No doubt many more are done in women for obvious reasons, but when one has to operate on suppurative appendicitis in the pelvis of a man he does not specially suffer from shock. Really no satisfactory explanation of the remarkable difference in the mortality statistics of the abdomino-perineal operation for cancer of the rectum in men and women has been forthcoming, and it may turn out that it is merely an accident of the early statistics of the operation. With regard to the causes of the heavy mortality of the operation in both sexes, I have very carefully looked into the causes of death as given by Mr. Miles in a very valuable paper based on his experience of the

operation in twenty-six cases (*Brit. Med. Journ.*, Oct., 1910). He lost ten out of the twenty-six cases, which is of course a very heavy mortality indeed. Only two were from shock at the time of the operation; but four died of "heart failure" a short time after, and though it is not easy to explain the exact method in which the operation brought about death in these cases, it seems reasonable to attribute the deaths to the operation, as Mr. Miles himself does.

Suppose, then, we consider all six cases as dying from a form of shock, this would seem to be the way in which so great a mortality is produced, for the other cases died from conditions which might be present in any intra-peritoneal bowel operation, and such an operation is Kraske's method of resection of part of the rectum.

During the last year I have had three cases of abdomino-perineal excision of the rectum for cancer, and all three were women, and in two the signs of severe shock came on during the operation; but by the use of immediate intravenous infusion I was able to finish the operation, and send them back to the ward with a fairly good pulse, nor did it fail later. In the third case there was no shock at the time of the operation, yet her pulse was not very good early next morning, but it very quickly improved with subcutaneous saline infusion. In the first case in which I did this operation (not one of those cases I have just mentioned) the growth seemed very advanced and quite fixed on rectal examination, and I opened the abdomen with the intention of performing simply a colostomy; but I found that from within the abdomen I could just move the mass of growth on the bony pelvis, and I removed it by the abdomino-perineal method; but it was an unusually extensive and difficult operation even for this method, and the man sank the day after the operation.

In another case I found the growth infiltrating the wall of the bladder, a condition which could only have been recognised by the abdominal operation, and in trying to separate the two organs, before it became evident that the condition was one of infiltration and not simply adhesion, I opened both the bladder

and rectum, with fatal result. In yet another case, also in a male, I found it necessary to resect an unusual length of colon in order to get away a group of malignant glands situated as high up in the meso-colon as the origin of the inferior mesenteric artery; but in this case the growth was situated about the junction of rectum and pelvic colon, and I did the whole operation through his abdomen without any serious shock. In this case the lower —extra peritoneal—portion of the rectum was not removed.

In one of my last cases (a woman) I was not able to remove the growth even by the abdominal method, as it was too densely adherent to (possibly infiltrating) several coils of small intestine. This was not really a rectal growth, and could not be felt per rectum. It was a growth in the pelvic colon, but I intended to remove the whole pelvic colon and rectum if I had not discovered its fixation to small intestine. In one of the cases I have already referred to, the growth was also not strictly rectal, and could not be felt from the rectum. In both cases the growths were discovered in the pelvic colon when the abdomen was opened for the relief of obstruction.

My feeling at the present time is in favour of the abdomino-perineal operation in preference to Kraske's; but as I said just now, I have no reason to be greatly dissatisfied with Kraske's operation as regards recurrence, and I have had quite a low mortality with it.

Now although I have all along been advocating extension of our operative procedure for removal of cancer, I ought to say that I do not operate even so extensively as many surgeons in cancer of the rectum close to the anus, and I fear some surgeons would regard my present practice in these cases with very severe judgment; but I have had such good results as to non-recurrence after perineal excision of the lower portion of the rectum only, without opening the peritoneal cavity in such cases, that I still continue to perform this operation. It is a remarkably safe one, and by a preliminary abdominal incision the surgeon can always ascertain if the case is really suitable for it.

I will now turn to the consideration of quite another form of malignant growth. Some years ago I read a paper at a meeting

of this Society, in which I advocated excision of periosteal sarcoma, and almost took the breath away from some members by what I am sure they considered my audacity and rashness; but I was only advocating what several German surgeons had already done with success, and since then Professor Alexis Thompson, of Edinburgh, has done the same operation in a case, details of which will no doubt be published presently, as the patient has already been shown at one of the medical societies in Edinburgh. I still hold the same opinion I did on the subject when I read that paper, *i.e.* that excision of a portion of the bone on which a periosteal sarcoma is growing might take the place of amputation in certain instances, and the experience of some surgeons in bone grafting has made this possible in cases in which otherwise it would not be so; but I feel that I ought to give this Society the result of my experience in one case in which I have employed the method since I published that paper. The case proves that a section of the bone an inch from the margin of the growth may not be far enough from it, and therefore limits our practice of the operation to cases in which the growth is very small, unless we can remove a large extent of bone, as in the fibula, or graft bone to take the place of the portion removed. In my case recurrence took place within a year on the shaft of the tibia, after resection of the lower end for periosteal sarcoma and division of the bone an inch above the upper level of the growth; but unfortunately, as generally happens in these cases even after amputation, the girl now has symptoms suggestive of intra-thoracic growth, three years after the resection of the bone and two after the amputation.

I must now say a few more words with regard to the subject of malignant growths in general. Time will not allow me to speak of measures of a non-operative kind, such as X-rays, radium, the administration of thyroid gland, Coley's fluid, and others used in non-operable cases. Perhaps I may just say that now and again they seem to check growth, and even occasionally to remove it; but they are all very unreliable, and cannot at the present time take the place of removal by the

knife in suitable cases. But I wish to remind you of what is of the utmost importance with regard to success in the operative treatment of malignant growths, and what others have again and again insisted on, that we should be so well acquainted with their earliest signs that we could diagnose and treat them quite early. But, alas! early recognition does not depend on us in many cases. The patient pays no heed to the presence of the early stages of the disease because there is a widespread but mistaken idea that the commencement of a malignant growth must be very distressing. If the fact that this is not so could only be impressed on the minds of people who are not doctors we might get many more early cases. For instance, if it were recognised that a lump in the breast was possibly cancer, even though it was quite painless and the patient appeared to be in the best of health, many more cases would be operated on early.

And it would be well if we medical men recognised that diarrhœa which did not soon yield to treatment, or even simply a too-frequent action of the bowels, might be the only sign of early cancer in the rectum ; that repeated attacks of abdominal colic, with alternating diarrhœa and constipation, might very likely be due to a growth in the colon ; that what looked like a simple wart or ulcer on the tongue, especially if associated with a leucoplacic patch, might very likely be the early stage of epithelioma ; that irregular uterine hemorrhage after the menopause was always a suspicious symptom of cancer of the uterus ; and that symptoms of dyspepsia occurring after middle life which did not yield to treatment, especially if associated with marked wasting, might be the only symptoms of cancer of the stomach.

I wish I had time to consider the way in which patients are liable to die after operation for the removal of malignant growth ; but this depends so much on the region of the growth, that it is quite impossible to give time to its consideration. But it is in a very careful study of the causes of death after these operations, as well as in early operation, that our hope lies for the future.

HOUSEHOLD SYPHILIS (SYPHILIS ŒCONOMICA), WITH OBSERVATIONS ON ACQUIRED SYPHILIS IN INFANTS.

BY

J. A. NIXON, B.A., M.B. Cantab., F.R.C.P.,

Physician to the Bristol Royal Infirmary.

THE transmission of syphilis by other means than sexual intercourse is probably commoner than we are wont to suppose. We always receive the protestations of syphilitic adults that coitus has not been the source of infection with a scepticism which worldly wisdom goes far to justify. But every now and again a case of acquired syphilis in a child raises a doubt whether we do not underestimate the frequency of the spread of syphilis by domestic and accidental as opposed to venereal contagion.

I have lately met with some instances of family spread of syphilis which have impressed upon me this important aspect of the disease. In the face of public apathy and ignorance of the transmissibility of so terrible an infection, it is as well to remind ourselves and the public that the great-pox may be communicated in the household from one member to another, if less frequently, not less innocently than the small-pox. We are inclined to forget Colles' view[1]: "The readiness with which this disease is communicated by contact cannot be exceeded in this property by any other disease with which I am acquainted. I look upon it as equally infectious with the itch itself. Another manner in which the disease is made to spread through the family is by the use of the same spoon, and drinking out of the same vessel with another of the family to whose mouth the disease may have spread. Those who are acquainted with the very scanty furniture of an Irish cabin will readily comprehend with what facility and rapidity the disease can be propagated in this manner."

In the transmission of domestic syphilis children play an important part. Heredo-syphilis is essentially contagious, and to belittle this is a dangerous doctrine; and, further, we must not forget that acquired syphilis is by no means rare in infants. Between these two sources of contagion the family into which syphilis makes an entrance is in greater danger of an epidemic than is generally supposed. All the older writers recognised this, but in later authors the matter meets with less weighty consideration, and is often dismissed in very summary fashion.

Diday,[2] in his book on *Syphilis in New-born Children*, is no less insistent than Colles on the subject. He speaks of the extension of this family transmission assuming the proportions of a veritable epidemic.

Paré's[3] case is worth relating as one "of these concatenations of infections." "A certaine very good citizen of this citye of Paris granted to his wife, being a very chaste woman that conditionally shee should nurse her owne child of which she lately was delivered shee should have a nurse in the house to ease her of some part of her labour. By ill hap the nurse they took was troubled with this disease wherefore she presently infected the childe, the childe the mother the mother her husband and hee two of his children who frequently accompanied him at bed and board, being ignorant of that malignity wherewith he was inwardly tainted. . . . I had them in cure and by God's helpe healed them all, except the sucking childe which died in the cure. But the hired nurse was soundly lashed in the prison and should have been whipped through all the streets of the citie but that the magistrate had a care to preserve the credit of the unfortunate family."

Diday himself met with several cases where an infant got or gave the syphilitic infection; but Facen's[4] case must suffice to illustrate the contrary process, where a heredo-syphilitic infant infected seven persons, the wet-nurse, a second child suckled by the wet-nurse, the mother of the second child, a girl of eighteen who had care of this latter child, a foster-child of the mother and this child's sister—a girl ten years of

age—and lastly the mother of these two children, a woman of 50.

It is evident how in this instance children form the necessary channels of communication from one family to another. Adults are more liable to acquire syphilis accidentally or extra-genitally from children whom they fondle and kiss, than from other adults with whom their relations are less intimate. Lancereaux regarded the question as of serious import.

Paracelsus [5] pointed out the various modes of syphilitic contagion: "Infectio triplici via, videlicet coitu, partu, tactu."

Charles Musitan [6] relates the history of the nuns of Sorrento, who contracted syphilis from kissing a little girl who had been suckled by a syphilitic woman.

Sydenham [7] remarks: "Infants may take it from adults by the mere contact of the skin, as when they lie naked in the same bed with diseased persons." And he adds less correctly: "Adults, indeed, would not take it under such circumstances without impure coitus. Infants, however, having laxer flesh and finer skin, readily take the poison."

In former times and in other countries, where wet-nursing was more in vogue than in England, suckling was an important means of spreading syphilis. Ricordi, [8] in 1863 at Cazorezzi, described a foundling affected with syphilis who caused the infection of twenty-three individuals. In the same year at Ubolda a foundling equally suffering from hereditary syphilis transmitted the disease to eighteen individuals. A third epidemic at Marcalle in 1864 proved fatal in sixteen cases.

Portal [8] relates that a kind of scrofulous epidemic prevailed at Montmorency amongst the children at nurse. The evil became so great there that the Government sent Moraud and Lassonne, who ascertained that most of the children were syphilitic.

But few epidemics of this nature have been more striking than that described recently by J. F. Schamberg, [9] where a single evening's social entertainment was followed by "eight cases of lip-chancre, all transmitted from one individual by kissing games."

There is no need to multiply such quotations. All syphilologists agree as to the transmissibility of syphilis in the family and the household. We are sometimes inclined to regard the accident as so rare that it need not be considered as a practical possibility. Many of us have never seen an instance. Should we see it more frequently if we inquired more assiduously? Lately several families have come under my notice in which syphilis spread by domestic means of infection.

Case 1.—In 1907 a girl, E. B., aged 15, attended at the Bristol Royal Infirmary suffering from a chancre in the centre of the dorsum of her tongue, with mucous tubercles on the tonsils, shotty glands in the neck, a sentinel bubo under the chin, and later a faint roseolous rash. Her mother had been under the care of Dr. Kenneth Wills at the Bristol General Hospital four months previously on account of secondary syphilis, which she admitted had been acquired by intercourse with a man other than her husband. At the time when the daughter came under my observation I found the father, a man of 62, an in-patient at the Eye Hospital with recent secondary syphilitic iritis. There was no evidence showing where the primary sore had been, and there was no scar suggesting that there had been a genital chancre.

Case 2.—Early in 1907 a married woman, Mrs. K., who had previously had one healthy child (Ivy K., aged 2 years), was deserted by her husband who had recently to his wife's knowledge acquired syphilis from a prostitute. Mrs. K. was not aware that he had transmitted the disease to her; but presently, finding herself pregnant and deserted by her husband, she obtained admission to the Union Infirmary, and was delivered of a heredo-syphilitic baby that died soon after birth. Mrs. K. left the Infirmary and went to live with her married sister, Mrs. B., taking with her Ivy K., her daughter, aged 2 years.

Within two months Ivy K. came under observation at the Bristol Royal Infirmary with acquired syphilis, sore throat, roseolous rash, and condylomata. The site of the primary chancre was not discovered. Two months later Mrs. B.'s infant, aged 8 months, acquired a chancre on his lower lip, and transmitted the infection to his mother's breast, where a primary sore on the nipple developed. Both Mrs. B. and her baby persevered with treatment, but suffered from severe secondaries, and later from gummata. I have lost sight of Mrs. K. and her daughter Ivy.

Case 3.—In 1907 Dr. Stack showed me a patient named Emily B. (a married woman) with a chancre of the lower lip. Her mother was also under treatment at that time for secondary syphilis, the remains of a chancre of the tongue being still perceptible. Eighteen months later a sister of the first-named, a girl of 18 unmarried, came under my care with a chancre of the left tonsil.

Case 4.—In 1907 I attended a girl of 18 with roseola and condylomata, who denied genital infection and had an intact hymen. I do not know where the primary chancre had been, but at the same time her father was under my care being treated for gonorrhœa and syphilis of recent acquisition, antedating his daughter's infection.

Case 5.—In 1910 a girl of 14 came under observation for gummata of the legs. She had no signs of heredo-syphilis, but had a well-authenticated history of a chancre of the cheek at the age of four, acquired from her mother, who being at the time a ward maid in the Lock Ward of a Union Infirmary in London, had a little while before developed a chancre on one of her fingers.

Case 6.—Early in 1911 Dr. Watson-Williams transferred to my care a girl aged four who had been brought to his throat department at the Bristol Royal Infirmary with well-marked secondary syphilis, a ragged infiltrated ulcer of the left tonsil, and a sentinel bubo under the jaw. The source of her infection remained unexplained.

I have not here quoted all the cases of extra-genital infection which have come under my notice, but have confined myself to those examples in which the infection has been familial or domestic. Numbers 4 and 6 in the list are doubtful instances, but the remaining four show clearly the dangers of syphilis spreading in the home by non-venereal contagion. This is what has been called *syphilis œconomica*, or syphilis of the household, and the term is not identical with *syphilis insontium*; for surely no person acquires syphilis more innocently than the newly-wedded bride, whose husband proceeds, in the words of Kehoe,[10] "to blast the life of a good woman by polluting her with the rotten fruits of his licentious career." Nor does it include all cases of extra-genital infection, for this may be acquired by sexual intercourse. It is that variety of syphilitic infection which in Scotland long ago received the name of *sibbens*, and

puzzled medical authorities by its obvious resemblance to syphilis, though "they could not bring themselves to acknowledge identity, because sibbens was not venereal."[11] The converse point of view, that syphilis spreads by venereal infection only, is at least acquiesced in by the medical profession at the present day, and is universal among the non-medical public. Hence it comes to pass that many cases of non-venereal syphilis are overlooked, especially among infants. It is doubtful whether we fully realise the ravages the disease is capable of in the midst of an unsuspecting and innocent family. Zarubin[12] holds strongly to the opinion that non-venereal syphilis is very common in Russia, and goes so far as to say "that it does not correspond with my observations to consider acquired syphilis in children is rarer than heredo-syphilis, and Kalmanowski, studying the subject in rural populations, agrees with me." Khijine found in rural districts of Russia extra-genital infection in 81 per cent. of all cases, and Militchevitch states that half the cases in Servia are extra-genital infection. Zarubin's conclusions are very interesting.

The non-venereal contagion is commoner in the country than in the towns.

Children are more liable to extra-genital infection than adults.

Infection by the mouth is the most frequent form of extra-genital syphilis.

Chancre of the pharynx is not less frequent than chancre of the lip.

The upper classes are as liable to non-venereal infection as the lower.

Children play an important part in the domestic spread of syphilis, both on account of the extreme infectivity of heredo-syphilis in infants, and by reason of their liability to acquire syphilis extra-genitally.

It should not be a very difficult matter to differentiate between acquired and inherited syphilis in infants, but the following points may help in the recognition of acquired syphilis.

The chancre is usually small, almost always extra-genital, and frequently overlooked or mistaken for some non-syphilitic affection.

Of course, it is not necessarily extra-genital. The instances of chancre of the prepuce, acquired by infants during the operation of circumcision, where sucking of the bleeding organ was resorted to for the arrest of hemorrhage by an infected operator, will be familiar to everyone; and this may occur not only in male but in female children, as Bertin[13] records: "A girl, four months old, became the subject of a chancre on the upper and inner surface of the left labium. It was discovered that an aunt of this child, affected with syphilis, tended it and kissed it, sometimes gave it the breast to quiet it, and lastly that she washed its genital organs with water which she had previously put into her mouth to warm it."

Infection by the mouth is the most frequent form of extra-genital syphilis. In babies, kissing and the revolting practice of moistening the comforter or rubber teat of the bottle in the nurse's mouth lead to the majority of chancres being situated on the face, lips, or in the mouth.

The tongue and tonsils are not uncommon sites of extra-genital chancre. The tonsil is, perhaps, for all ages the commonest. Probably chancre of the tonsil or pharynx is conveyed thither by infected spoons or forks, and young children unaccustomed to and unhandy with these implements may often abrade the posterior parts of the mouth in greedy attempts to get their food safely swallowed.

Chancre of the conjunctiva is sometimes acquired by the practice of licking the eye to remove a foreign body. Nose, fingers, abdomen, scalp, and in fact any part of the exposed skin or vulnerable mucous membrane may be the seat of inoculation.

Vaccination chancre is more often talked of than seen; and although Cory's[14] experiments showed that syphilis may be communicated in the vaccine lymph it is as well to bear in mind another possibility, illustrated by Gottheil's[15] family epidemic, which attacked all the members of a family of ten. "The

disease was brought into the family by the eldest child, a girl aged 14 years, who contracted it in the ordinary way. She infected the vaccination wound of the youngest child in the family, a boy of two years, still nursing. This infant gave his mother a chancre of the nipple, and so in the course of a year the disease spread through the entire family, the father, strange to say, being the last to acquire it."

The chancre is always difficult to diagnose; experience teaches some of the peculiarities which it may present. First and foremost it is not necessarily or even usually indurated if it occurs on the skin; it will almost always be mistaken for a simple infection of some other sort. But it will prove very refractory to all treatment except mercury; it will tend to remain localised and circumscribed, and this may be of assistance by contrast with suppurating foci in infants, which spread and multiply as a rule very readily. There may be, if on or near a mucous membrane, an extraordinary degree of localised swelling. A chancre of the lip, once seen, forms a clinical picture which on the next occasion will be recognised across the room. There is very little pus discharging from an angry raw surface. If the chancre be on the skin it has a characteristic raspberry appearance; if near the nail it resembles a chronic whitlow; if on the face or scalp it may simulate impetigo, save that it is solitary, and, unlike impetigo, remains so; if on the lip or tongue it has the angry tumidity of an insect sting; if on the tonsil, in my experience it has usually been mistaken for diphtheria, for over a greatly swollen tonsil, which looks as if it were bulging with pus, there spreads a queer glairy whitish yellow, sometimes cartilaginous-looking film, which is not removable like a true membrane, nor formed by a coalescence of plugged follicles. The tonsil may be incised for quinsy—I have seen it done—and the exudation promptly coats the sides of the incision. Speaking generally, in infants a chancre will probably at first, at any rate, be missed. The secondaries are often benign, far less severe than in heredo-syphilis: a faint roseola, a morbilliform eruption, or a moist wash-leather seborrhœic rash are the usual varieties met with; or it may look no more

than an intertrigo, where the roseola elsewhere is insignificant, but the moist fold of skin being chafed renders it more apparent.

It is a good plan to view a doubtful roseola through a piece of blue glass, whereby it is rendered easily visible. But condylomata are almost always present, and intertrigo, however severe from non-syphilitic causes, never produces anything dimly resembling condylomata. These condylomata are situated round the anus and vulva, and are practically invariably accompanied by mucous tubercles in the mouth, or snail crawls on the tonsils, or a characteristic chapping of the angles of the mouth. Very often the whole face looks puffy and swollen, suggesting acute nephritis. Periostitis may occur early, but as a rule comes later. There is invariably glandular enlargement in the neighbourhood of the primary sore. This takes the form of an indurated sentinel bubo. There may be considerable enlargement of other adjacent glands, with shotty swelling of all glands, and especially the posterior cervical chains. Anæmia is a prominent symptom, but in the cases I have seen there has not been any marked wasting. The marasmus of heredo-syphilis is absent. In other respects the disease runs the ordinary variable course of syphilis, passing on to tertiary manifestations of every kind.

The differential diagnosis between acquired and inherited syphilis in infants depends upon :—

(1) Finding the chancre. "A primary chancre existing in a child, and which has not commenced in it before the fifteenth day after its birth, is a valuable indication for arriving at the source of the disease. It exonerates the parents" (Diday, 199).

(2) The general appearance of the child is more healthy in the acquired form.

(3) The characteristic lesions of heredo-syphilis are absent in acquired syphilis, namely "natiform skull, epiphysitis, snuffles, bullæ of palms and soles, and in plaques of face and buttocks."

(4) There may be an incompatibility between the age of the patient and the quality of the eruption (*e.g.* roseola and condylomata at twelve years must depend upon acquired infection).

The tertiary lesions are impossible to distinguish, but it may help if one bears in mind that interstitial keratitis and deafness may be acquired, Hutchinson's teeth never.

The sunken bridge of the nose, if present, is positive evidence of heredo-syphilis, for snuffles does not occur in acquired syphilis. Many heredo-syphilitics escape this stigma, therefore its absence argues nothing. Early fundus changes are of the greatest value, disseminated choroiditis is essentially syphilitic in origin, and may in hereditary cases be present at birth. A well-marked case with old-standing choroidal atrophy is unmistakable, and cannot be associated with recently-acquired secondary syphilides. Myopic choroiditis must not be mistaken for syphilitic ; the refraction will help, and a myopic crescent or staphyloma is conclusive evidence that syphilis is not the sole cause of the fundus changes.

The hoarse cry is not characteristic of inherited syphilis, neither are condylomata, mucous tubercles, and fissures round the mouth. The relatively late appearance of lesions about the mouth in congenital syphilis is an important feature in contrast to the acquired form, where the earliest lesions are so often in the mouth. " Bardinet has rendered a true service to science and to practice in showing that most frequently congenital symptoms commence in the new-born child at the genitals or or anus, and do not attack the mouth until later." Dystrophic lesions are the mark of the heredo-syphilitic. The wizened, old, monkey-like child, the hare-lip, cleft palate, monstrosities and maldevelopment of various organs, whether partial or general, will distinguish inherited from acquired syphilis. Another inquiry of the utmost value is the investigation of the mother's history of pregnancy and parturition. Any woman may be assumed to have had syphilis who gives a history exemplifying Diday's law of decrease of the fœticidal action of the syphilitic poison.

It is from the recognition of acquired syphilis in children that the spread of syphilis in the family is most commonly detected. As a rule adults are rightly or wrongly assumed to have been infected by venereal contact, and some practitioners

regard acquired syphilis in children as being commonly the result of a criminal assault. *Syphilis œconomica* is the true explanation of no small proportion of cases occurring in children, and extra-genital chancres about the mouth in adults, as well as in children, are more often than not due to infection from food utensils; especially is this the case when the primary sore is situated on the tongue or tonsil.

Gaucher and Flurin,[16] in their excellent study upon the situation of chancres in children under fifteen years of age, show from their own observations and those of Professor Fournier that the lips are the most common seat of extra-genital chancres in children.

By Professor Gaucher's courtesy I am able to quote his conclusions at length: "All observers are agreed in recognising the very great frequency of the site of the chancre on the face, and particularly of the chancre of the lips. As for chancre of the tonsil, of which Duncan Bulkley and Bœck have shown the extreme importance in children, we cannot support their opinion, as we have never seen primary tonsillar syphilis below the age of fifteen. It is fair to say that Bœck has observed it in Norway, and explains the frequency of tonsillar chancre in that country by the large number of poor families who share the same food utensils, and who possess only one spoon for a whole household. . . . We may conclude with the remark that just as there is no age protected from acquired syphilis, so there is no region of the skin or mucous membranes which may not at every age be the seat of syphilitic chancre, and where this may not be the result of some accidental contact."

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SOME OBSERVATIONS ON TEA-POISONING.[1]

BY

NEWMAN NEILD, M.B., M.R.C.P.,

Lecturer on Pharmacology and Therapeutics, University of Bristol; Physician to the Bristol General Hospital, with charge of Out-patients.

TEA-POISONING is more often a complication of previously-existing disease than it is the sole cause of the patient's complaint.

The commonest co-existing diseases are those which most frequently lead to excess in tea-drinking. First amongst these is oral sepsis, due to decaying stumps of teeth, septic gums and pyorrhœa alveolaris. During the night the undisturbed incubation of bacteria in the mouth and the accumulation of their products creates a bad taste, that is removed for a time by an early-morning cup of strong tea; the more tannin present in the infusion the more efficient for the purpose. With this early cup of tea we have the best conditions for the rapid absorption of a poison. The solution is hot and concentrated, the stomach has had a long rest, and it may be an hour or more before any food is taken. But the presence of a bad taste in the mouth is not the only cause of the craving for tea in these cases; the absorbed

[1] Read at a Meeting of the Bristol Medico-Chirurgical Society, November 8th, 1911.

toxins from the septic trouble, both by their direct action upon the nervous system and by the starvation of that system by the secondary anæmia, produce a condition which urgently calls for the stimulant action of tea. The decomposition is also responsible for various disturbances of the digestion, and the tea which is taken to relieve the trouble may in turn produce further disturbances on its own account.

In women at the menopause nervous instability is a frequent cause of excess in tea-drinking; and although tea seems to brace the nerves for a short time, it also greatly aggravates certain of the symptoms.

Amongst the working-classes the woman who before marriage has lived an active life, and then settles down to the management of a house of her own, very frequently "takes to tea." Each day the household work occupies her for but a short time, after which she has a long, lonely and idle day, the dreariness of which is only relieved by the teapot. Hence the longer she remains childless the more liable is she to the habit.

Certain occupations give much opportunity for this excess, especially those of tailoress and domestic servant. In another sphere of existence the indefatigable afternoon-caller often succumbs to the perils of her calling.

In out-patient practice there are few more tragic figures than that of the old woman who evades the shame of the workhouse by the hopeless heroism of solitary starvation. Her aged body, shrivelled and discoloured, irresistibly recalls some lines from "Les Regrets de la Belle Heaulmière." Tea, her sole consolation, is at the same time the cause of much of her misery. "Thus fareth many and many a one."

Amongst men those whose occupations create thirst, with the marked exception of brewers' employés, are liable to become excessive tea-drinkers, although it is in sedentary occupations that the effects of tea excess are most rapidly produced. A very large amount of tea is often taken by those whose occupation makes them perspire freely, without producing any distressing symptoms.

The fact, noted by Beard, that coffee is less harmful in hot

and in cold countries than in temperate ones may be explained in part by the greater activity of the skin in a hot climate and of the kidneys in a cold, with the result that elimination is more rapid than in temperate temperatures. With the onset of cold weather men perspire less freely at their work, and may show signs of poisoning if they take the same amount of tea as formerly. I have observed this connectionin several cases.

It is noticeable that amongst working men it is the steady, intelligent, and thrifty man with a comparatively high standard of comfort who is most liable to suffer from this poisoning. In marked contrast to the alcoholic member of society, he frequently suffers from neurasthenia due to a wise limitation of the family by unwise means. The resulting neurasthenia calls for tea.

In a large number of my cases the question as to the form and the amount of the beverage indulged in was reserved until all the symptoms had been elicited ; but since certain questions were only asked where tea excess was suspected, it cannot be said that all bias was removed. It has been in comparatively rare cases that tea excess has been present as the sole causal factor, and even in some of these it is hard to deny that some of the symptomatology may be due to a sedentary life.

In the majority of cases of chronic tea-poisoning the symptoms come on very gradually during some months, and then rapidly increase during the last few weeks or days before the patient comes under observation.

What are the symptoms which should lead one to suspect tea-poisoning ?

A celebrated surgeon once asked his house-surgeon, for the purposes of a clinical lecture, to look through the case books and collect a few typical cases of a certain affection of the knee-joint. The case books for some years back were diligently searched, and a number of histories were selected, condensed, and forwarded to the surgeon. Not one proved typical. The house-surgeon was reproved and urged to make further efforts, with the result that several typical cases were discovered admirably adapted to the celebrated surgeon's requirements.

The lecture was a success, but there were three conscience-stricken residents when that clinical lecture appeared in print. But I am convinced that the most truly typical case is the constructed one, and venture to set forth the following :—

M. N., aged 26, married eighteen months, no children ; formerly in good health as a factory hand. About a year ago began to suffer from dizziness and headache ; felt very run down, and became irritable. Could assign no cause for her illness. Has no pecuniary or other troubles. Later became sleepless, or woke up in the night with attacks of difficult breathing. During the day easily became short of breath, and had frequent " fainty " attacks, and often suffered from " fluttering " of the heart or attacks when the heart " thumped." Noticed about this time that her former good complexion and colour had been supplanted by pallor and a yellowish tinge ; the last fortnight she has suddenly become a brownish tint. Suffers from pain in the chest, chiefly behind the lower part of the breast-bone ; has " wind " sometimes, but it has only been really troublesome during the last fortnight, now that constipation has been added to her troubles. About an hour and a half after meals there is a sinking sensation in the stomach. The sensation is relieved at once by tea or food. There is great muscular weakness, and particularly the legs seem to fail her at times. Tea now causes the face to flush, or even seems to cause flushing over the whole body at times. Hot broth or soup does not produce anything like so great an effect. Since the skin became dark there has been much irritation of the skin. The last few days the sight of food makes her feel sick, and she has now turned against tea, but still takes a little.

There is great and even to herself unaccountable depression : often sits down and has a good cry without deriving that benefit therefrom to which she was formerly accustomed. Is very nervous : a knock at the door, and the heart stops suddenly, and swells as if it would choke her ; then clammy cold, trembling and faint, she is overwhelmed by the idea that someone has come to bring a terrible calamity upon her. She hardly dares to open a letter lest it contain bad news, upbraiding, or accusations. Only the necessity of shopping prevents her from remaining indoors the whole time. For some months two cups of strong tea have been taken with each meal, as well as an early cup which her husband prepares and brings up to the invalid every morning, and an occasional cup when she feels so disposed. When friends drop in to cheer her up she pours out her woes and a few more cups of tea.

The patient looks tired and anxious. The hair is of medium brown, the eyes grey ; the skin is tinted a very pale brown,

darker round the eyes, at the temples, the margin of the forehead, and below the mouth. The neck is very dark where the collar fits closely. The abdomen is somewhat darker than the thorax. On closing the eyes there is tremor of the lids, and a slight tremor of the hands when the fingers are widely spread and extended. The palms of the hands are moist. The tendon reflexes are increased. There are no decayed teeth or pyorrhœa alveolaris. The breath is not exactly disagreeable, although it has a strong and characteristic odour. The heart is nervous, increasing in rapidity for a few moments on the least excitement, and the area of cardiac dulness varies during examination like that of the chlorotic patient. The patient is aware of the irregularity, and describes the sensation when the beats become uncountable for a second or two as a " fluttering," or as if the " heart turned over," and there is a feeling of fulness in the chest, and she becomes conscious of some difficulty in breathing. The pulse is variable both in volume and rapidity. The blood-pressure is normal. The breathing is sometimes shallow, sometimes sighing with lengthened pauses. The blood shows no particular changes beyond some degree of anæmia. The urine is very pale, of low specific gravity, and contains no albumen or sugar.

The above case represents a severe and uncomplicated case of tea-poisoning.

To refer to some of the symptoms more fully.

Many of these symptoms are much more prominent and more rapidly produced where there is also sepsis in the mouth or constipation present, particularly the discolouration of the skin and the dyspepsia. At one time I thought that the constipation was the cause of the discolouration, but several " well-marked " cases have had no trouble with the bowels. Two of these cases were tested, one with carmine and the other with charcoal, to make certain that the regular motions were not delayed stools. Symptoms attributable to the colon are not uncommon, but that common cause of discolouration, a dilated colon, was found only in a small number of the cases where it was looked for. The roughening of the back of the upper arm, as described by Arbuthnot Lane in dilatation of the colon, is not unusually common in tea poisoning. The whites of the eyes are not discoloured, thus distinguishing the discolouration from a slight jaundice.

To digress into theory for a moment. The colour is probably produced by some toxin due to disturbances of digestion, caused in these cases by tea, and not to the direct action of any absorbed constituent of the tea, although doubtless the frequent flushing due to the tea greatly assists the action upon the skin. The pigment is not a deposit in the skin, but a product of the skin. A patient who told me that she could "drink tea until she looked like it" was nearer the truth than she realised. At the time when discolouration is making most rapid progress there is usually some irritation of the skin, and in some cases this irritation is severe. In cases of habitual constipation and oral sepsis the pigmentation comes on earlier in the case and is more pronounced. Tremor also is more common where there are other causes of neurasthenia at work.

The hot flushes so frequent in tea-poisoning are, as one would expect, much more distressing at the menopause. Those who suffer from acne rosacea, or eczema, are much more conscious of the flushing than others; but as to any causal relationship between tea and the acne rosacea it is difficult for me to express an opinion of any value, since in hospital practice all well-marked cases of acne rosacea are sent directly to the physician for diseases of the skin. But without any observations being particularly directed to the point, this skin disease was noted as present in five out of the last 109 cases which I have had under my care. Certainly tea adds considerably to the distress of these patients, and one woman tells me that whenever she drinks a cup of tea "all the blotches on me face throb as if you had a gathering." Symptoms of gout are not noticeably more frequent amongst those suffering from tea excess, although tea delays recovery and increases the trouble in gouty attacks.

Occasionally a patient will complain of polyuria. One case that came under my care had actually been admitted into a medical institution in Bristol for "drinking diabetes." She had rapidly improved under treatment, but on leaving the institution the trouble became as bad as ever. The absolute

prohibition of tea promptly stopped the polyuria. Here a few experiments proved the relationship of tea to the complaint.

There is only one pathognomonic sign of tea excess, but it is not present in all cases; that is, the odour of the breath. It is difficult to describe a smell, but the nearest smell to which I can compare it is that of musty old books. Without being unpleasant, it is often so strong as to be detectable even where there is also a fœtid smell of oral sepsis. It is secreted by the lungs, and at times provides a clue to the cause of the patient's trouble. Some teas cause the smell far more than others do. Similarly, in the case of another beverage, the so-called "peaty" quality, of which certain brands boast, will often provide through the patient's breath a valuable hint of excess long before the smell of alcohol or acetone can be detected. Here also it is excreted by the lungs.

The cardiac symptoms are more akin to those of tobacco-poisoning than to those of alcoholism, the symptoms of nervous derangement predominating over the signs of muscular degeneration. From our knowledge of the action of caffein upon the respiratory centre, we might presume that the respiratory disturbance was due to reaction from, or over-action of, this direct stimulation of the centre; but from a clinical point of view we cannot entirely ignore the disturbance of the heart or the dyspepsia as causal factors. In six cases of tea-poisoning I have found that the blood-pressure is not much altered, although in one very severe case it was lowered. Arterio-sclerosis is not more common in these cases than would be accounted for by its general frequency, yet it must be admitted that the three types of the preliminary stage of arterio-sclerosis, as set forth by Stengel, would cover the great majority, if not all, of the cases of chronic tea-poisoning. His description of the "nutritional," "neurasthenic" and "nervous" types must include in its embrace some toxæmias that do not proceed to arterio-sclerosis. Some disturbance of the digestion is always present. Myasthenic or atonic dyspepsia may serve as a general hold-all for the symptoms of the indigestion from

which these cases suffer, yet there are one or two symptoms which require especial reference.

A frequent symptom is a peculiar "sinking sensation," that comes on with striking regularity about an hour and a half after having taken tea, whether with or without food. It comes on quite suddenly, and begins with a feeling of movement or contraction at the pyloric end of the stomach. It is caused by excess of tea, and yet this excess may consist of the only cup taken in the twenty-four hours, provided that the tea and its method of preparation are sufficiently bad. Personal experience first drew my attention to the symptom, and it has been noted by other observers.

Constipation is by no means always present, but is usual, and when it does occur greatly hastens the onset of the severe symptoms. As is the case with other astringents, tea may sometimes cause diarrhœa. In one case under my care the neurasthenic symptoms, combined with the alternation of constipation and diarrhœa, led me to diagnose mucous colitis, yet the intestinal symptoms ceased when the tea was withheld. Many patients complain of regurgitations, and these are more often described as "burning" or "bilious" than acid. The loss of appetite is partially responsible for the wasting often seen in these cases.

The answer to the question, What constitutes excess? depends upon the kind, the method of preparation, and the quantity of tea on the one hand, and the idiosyncrasy of the subject towards tea, the state of the digestive and nervous systems, and the occupation of the individual on the other. For anyone who has developed severe symptoms there must be no half-measures: tea must be absolutely withdrawn. It is remarkable what a small allowance of tea will maintain the trouble once severe symptoms have been produced. In milder cases instruction in the art of making tea and strict limitation to a reasonable quantity of a good tea will often do all that is required. Where tea is still allowed very careful and full directions must be given. To tell patients that they must take China instead of Indian tea is as useless as to tell a smoker to give up Virginian cigarettes and

take to Turkish. It may be an improvement or it may not. "Four minutes on the leaves" is a rule often given, and religiously applied by the patient—to the first cup. Most people judge of the strength of a cup of tea in the first place by the colour—an unreliable standard that has largely influenced the tea market, and the desire for full value for one's money is not confined to the very poor.

As with alcoholic beverages, the great difficulty is to find a substitute that has both an attractive flavour and a pleasant effect without any reaction from that effect. Coffee is a substitute in little but name, and cocoa is not well borne by those whose digestion has been impaired by tea. The various meat extracts are valuable as temporary substitutes in some cases, but they are expensive and are generally too salty. A German preparation called malt-coffee is useful, but not easy to obtain.

Regulation of the bowels and an alkaline gentian mixture with nux vomica are most efficacious; indeed, in cases where the cause of the trouble has been overlooked they alone may somewhat relieve the symptoms for a time.

The discovery of a history of flagrant excess in tea-drinking must not prevent careful inquiry into other causes of dyspepsia and neurasthenia, such as oral sepsis, the menopause, and worry, since excess in tea-drinking is so often caused in the first instance by ill-health due to some other cause.

For the majority of people tea, properly prepared and taken in moderate quantities, is not only harmless but useful; yet a glance at the pharmacology of two of the active ingredients of tea—caffein and tannin—will show that excess of either may be expected to produce a serious disturbance of health. This disturbance of health, although varying greatly in degree, is so consistent in form that excess in tea-drinking should rarely be overlooked.

CARDIAC ARRHYTHMIA: FIVE CASES.

BY

CAREY COOMBS, M.D., M.R.C.P. Lond.,

Assistant Physician, Bristol General Hospital.

THESE five cases are selected, not because of any new data brought to light by a study of them, but because they will serve as a means for demonstrating the principal facts on which the modern conceptions of cardiac arrhythmia are based.

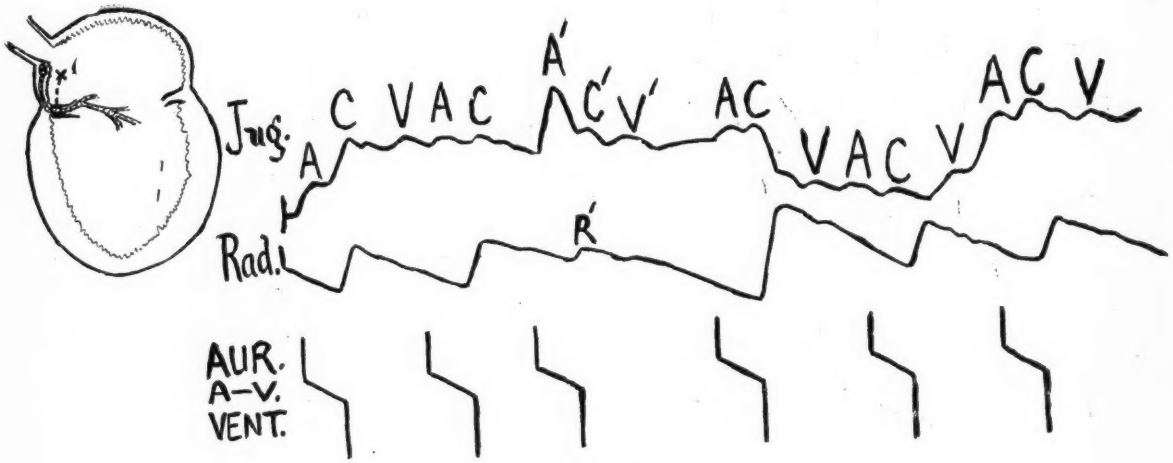
First, certain facts as to the anatomy and physiology of the cardiac muscle must be recalled. The primitive heart is a muscular tube, the powerfully contracting chamber is a later development, and the valves and pericardium are convenient appendages added later still. Traces of this tube are still to be found in the mammalian heart. These are (*a*) the sino-auricular node, situated at the junction of the sinus venosus, the opening of the superior vena cava, with the right auricle; (*b*) the auriculo-ventricular node, situated in the inter-auricular septum, just above the pars membranacea of the inter-ventricular septum; (*c*) the auriculo-ventricular bundle, first described by Professor Stanley Kent, which runs from the node into the inter-ventricular septum, and splits into two branches, one for each ventricle, each breaking up again and again for distribution throughout the ventricular musculature. No definite separate muscular connection has yet been proved between the two nodes, which, it must be remembered, are the main points of junction between the nerves and the musculature of the heart.

So much for anatomy. Next it is necessary to state the five separate functions of the cardiac muscle. (1) Rhythmicity, or the power of originating within itself the necessary stimulus at regular intervals. (2) Excitability, or the faculty of being impressed by that stimulus into a response. (3) Conductivity,

or the power of carrying the stimulus from one part of the heart to another. (4) Contractility, or the power of contraction in response to stimulation, such as is common to all kinds of muscle. (5) Tonus, or the property by which the muscular chambers are prevented from complete relaxation even in full diastole. The stimulus begins normally at the sino-auricular node, passing thence through the auricular walls to the auriculo-ventricular node, and onwards into the ventricular walls by way of the auriculo-ventricular bundle and its branches. These functions, though essentially muscular, are subject to exaltation or depression by nervous influences transmitted through the vagus and sympathetic.

By means of the graphic methods of studying the cardiac movements we have not only arrived at a definite understanding of the nature of the different types of arrhythmia, but we have also found it possible to analyse with tolerable certainty the causative factors in individual cases of irregularity. The graphic methods in use are of two principal kinds—those that record the movements of the heart or blood-vessels, and those that record the changes in the electrical potential of the cardiac walls. The latter study is a very intricate one, but it has already yielded most important data. It is, however, not freely applicable to clinical medicine, and the cases before you to-night have been investigated entirely by records taken direct from two parts of the circulation, the radial artery representing ventricular and the internal jugular vein representing auricular movements. The tracings here shown are copies from originals taken with Mackenzie's ink polygraph. The points to remember in their interpretation are these: (1) The time-relation of the waves is the thing that matters; their amplitude may be ignored. (2) The radial tracing is taken because it is a convenient index of the time at which one definite event in the cardiac cycle, namely ventricular systole, has occurred. (3) The first step is to measure on the radial tracing the distance from the ordinate line with which the tracing begins or ends to the beginning of the upstrokes which indicate the pulse waves. (4) Next these measurements are transferred to the jugular

Case I.



Case 2.

tracing by means of callipers or compasses. For instance, having measured the distance X—Y in the first tracing (Fig. 1), we transfer this measurement to the jugular tracing, and find the position of Y^1 by fixing X^1 at the point of origin of the tracing. (5) Allowing for the difference in time (0.1 sec.) between the carotid and radial pulses, we find waves in the jugular tracing corresponding in time with those of the radial tracing. These are the carotid or "C" waves, the upstrokes of which correspond with the beginning of ventricular systoles. (6) The wave preceding each carotid, ventriculo-systolic wave is the "A" wave, auriculo-systolic in origin. (7) The waves marked "V" may be ignored so far as this paper is concerned. They correspond with the onset of ventricular diastole.

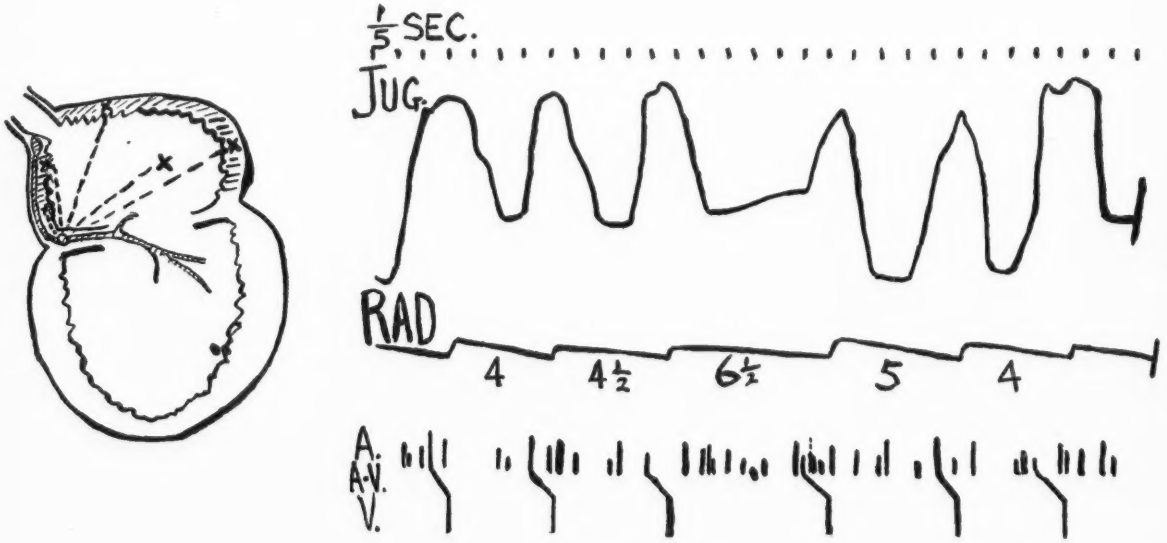
At the side of each tracing I have drawn a schematic heart, in the first of which 1=the sino-auricular node, 2=the auriculo-ventricular node, and 3=the auriculo-ventricular bundle. In each case points of abnormal stimulus production are indicated by crosses, "X," paths of such abnormally produced stimuli by dotted lines, interruption of conductivity by a gap in the line depicting the a-v bundle, and failing contractility by shading of the injured portion of myocardium. Beneath each tracing there is a diagram to show the sequence of the chief events in the cardiac cycle: AUR=auricular systole, A—V=auriculo-ventricular stimulus condition, and VENT.=ventricular systole. The line at the top marks off fifths of seconds.

Case 1 is that of a neurotic girl. When I saw her first her pulse rate was 40 per minute, and as there were cardiac symptoms, but no physical signs of disease, I determined to take a tracing. When this was done the pulse beat 80 per minute, and regularly except for a short period of tachycardia, seen in the second half of the tracing printed here. The waves on the jugular curve which corresponded with the tachycardial radial waves are marked "C^1." Each of these is preceded at the normal interval ($\frac{1}{5}$ sec.) by an "A" wave. Auricle and ventricle are therefore beating in normal sequence, though at a quickened rate. The stimulus is therefore being originated at the normal spot, the sino-auricular node; the abnormally quickened rate is probably due to depression of vagus control. This type is known as "sinus irregularity."

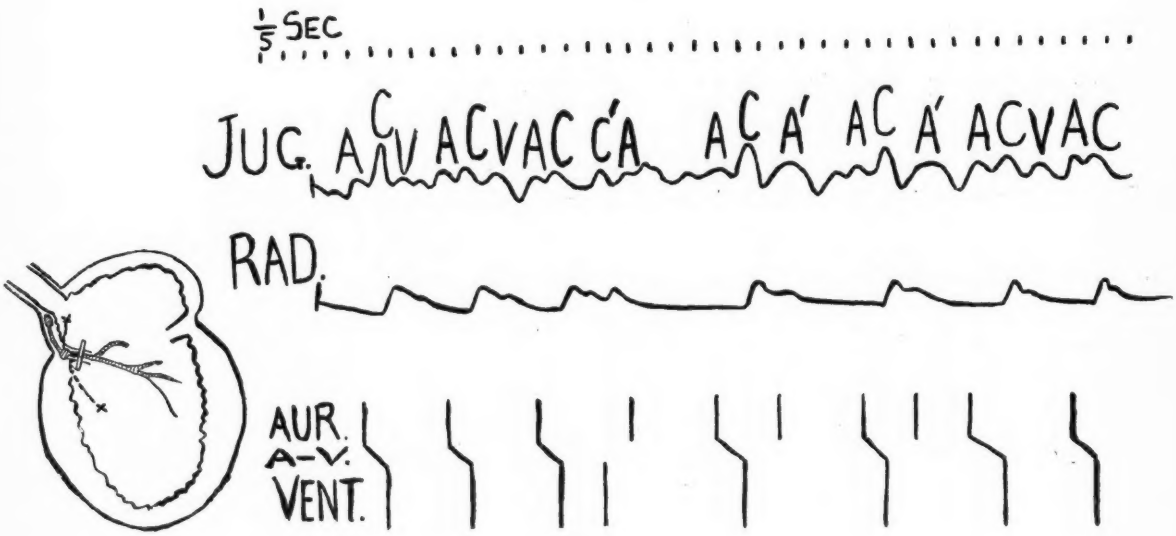
Case 2 is of some little interest. It is that of a girl of ten years or so, with rheumatic carditis, who has been under my observation for about two years. During that time her pulse has almost always been subject to premature beats (known as "extrasystoles"), occurring at varying intervals. One of these, marked "R[1]," is shown in the tracing (Fig. 2). The records show that the premature ventricular beat is preceded at the normal distance by an auricular beat; a long strip of tracing showed also that the distance between each premature beat and the preceding normal beat was constant. From this we may deduce that (*a*) the site of production of such premature beats is in the auricle, and (*b*) such beats all arise from some one special site. It is of course possible to argue that the site is none other than the sino-auricular node, and that the premature beat is due to a recurrent disturbance of innervation; but I think it is unlikely that a nervous disturbance would continue to produce isolated extrasystoles, all of the same type, month after month and year after year. It is much more likely that there is in the auricular wall some irritable spot, at which stimulus material is being built up too fast, or susceptibility to stimulation abnormally keen. We can only guess at the nature of such a focus. In the active phases of cardiac rheumatism two varieties of focal lesion are to be found in the myocardium, one constant and the other occasional. The constant lesion is the submiliary nodule, described fully in another paper,[1] the rarer one is obliterative arteritis. For two reasons I am inclined to attribute this extrasystole to the arterial lesion. First, extrasystoles are commoner in the arterio-sclerotic heart than in any other form of organic cardiopathy; second, they appear in less than 5 per cent. of all cases of the cardiac rheumatism of childhood, and cannot therefore be associated with a lesion, which, like the submiliary nodule, is always present.

Case 3 (Fig. 3) is that of a man aged 27 with mitral stenosis. His lips were blue, his feet swollen, and his cardiac reserve very limited, for he could scarcely walk even on level ground without distressing breathlessness. Roughly examined with the finger, his pulse seemed almost regular. A tracing, however, brings out two points. First, the pulse is totally irregular, *i.e.* no two consecutive beats are of the same length; second, the auriculo-systolic wave has quite disappeared from the jugular tracing, leaving only waves of great amplitude, ventriculo-systolic in time. This is the condition known as "pulsus irregularis perpetuus" (Hering), or better still, "total arrhythmia." The original theory of "nodal rhythm" provisionally offered by Mackenzie has been withdrawn, and this irregular pulse is now

[1] *J. Path. and Bacteriol.*, 1911, xv. 48.



Case 3.



Case 4.

accounted for, according to the researches of Lewis[1] and others, by the process known as "auricular fibrillation." This process is depicted in a rather crude way in the schematic drawings. The suggestion is that the auricle, failing in the impossible task it has been set by the constriction of the mitral valve, has abandoned its normal co-ordinate systole, which is replaced by numerous disconnected, ineffective, partial twitchings of the auricular wall. Each part of the auricular wall has become a "law unto himself," and generates impulses which are pelted in a confused series into the ventricle through the conducting bundle, producing a haphazard sequence of ventricular responses. It is this condition which is the one great indication for the use of digitalis, according to Mackenzie.

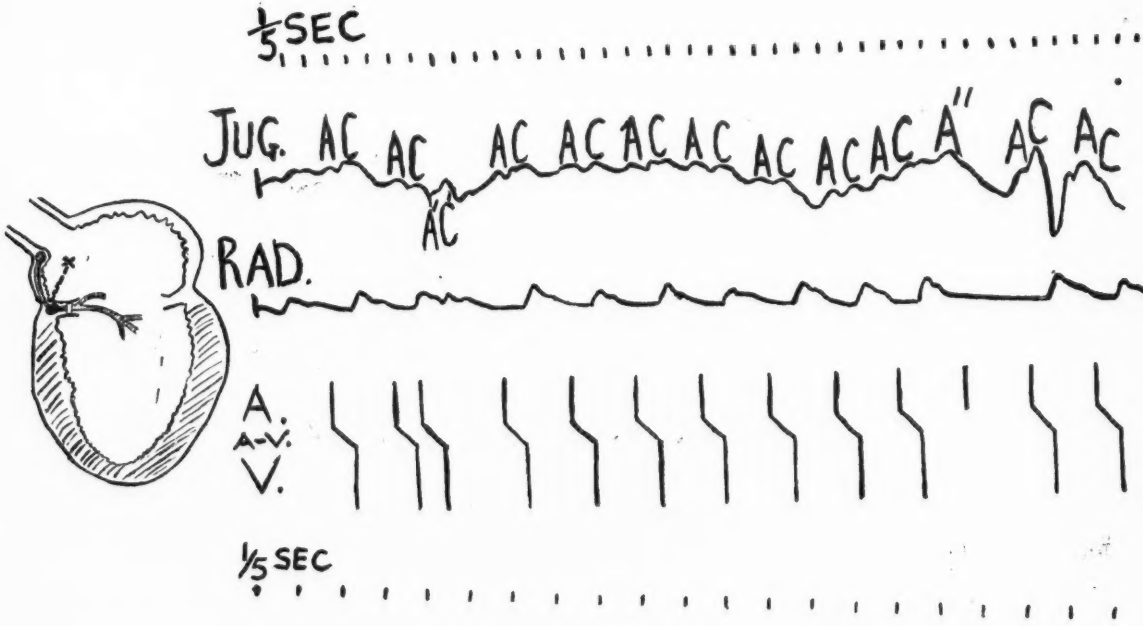
Case 4 was a very interesting one from the diagnostic and prognostic point of view. The patient, an elderly man, had very sclerotic arteries and an extraordinarily irregular pulse, as the tracing (Fig. 4) shows. He suffered no great distress, however, apart from uncomfortable sensations over the heart. The pulse was so irregular that at first I thought it must be an example of the total irregularity exemplified in Case 3. The tracing, however, showed that whatever the arrhythmia was due to it was certainly not of the type associated with auricular fibrillation, for it presented distinct evidences of efficient auricular systole. I have interpreted the tracing as a jumble of extrasystoles, with a minor degree of heart-block due to digitalis. I do not, however, wish to press this explanation, but only to emphasise the fact that by means of the tracing we were enabled to exclude the serious prognostic element introduced by a diagnosis of total arrhythmia. The man was in the General Hospital under Dr. Parker, who took a great interest in the case, and kindly allowed me to take tracings. He was allowed to get up and go about the ward, and went out quite comfortable in spite of his arrhythmia. I have seen several such cases of multiple extrasystoles simulating "total irregularity."

Case 5 was of a very different order. A stout alcoholic, of about 40 years, came into the Hospital urgently ill, almost moribund, in fact. He was intensely dyspnœic, and œdematous as high as his chest. Under treatment he improved remarkably, but was unable to resume work. The tracing, part of which appears in Fig. 5, was taken some weeks after he had left the wards. It shows three abnormalities. (1) Early in the tracing an auricular extrasystole is seen. (2) Throughout the tracing the radial pulse shows true alternation, *i.e.* the beats are of equal length but alternate in amplitude,

[1] *Heart*, 1909–10, i. 306.

a small beat being always interposed between two large beats. This alternation is always a grave sign, since it proves exhaustion of contractility. The contractile substance is built up with difficulty in such hearts ; a full ventricular systole so exhausts the stock that the normal diastolic pause does not suffice for its replenishment, and the next beat is therefore a small one. This gives the heart a more adequate rest ; time is allowed for a better storing of contractile substance, which once more permits of, and is exhausted by, a full beat, and so on. (3) Towards the end of the tracing a radial beat is missing. Reference to the jugular tracing shows that this was due not to failure of the auricular systole, which took place normally ("A^{11}"), but to lack of the normal ventricular sequence : that is to say, the impulse which duly stimulated the auricle to contraction was "blocked" in its passage from auricle to ventricle through the bundle of His, as the schematic heart shows. Thus the tracing showed (*a*) an abnormally irritable spot in the auricle, (*b*) exhaustion of ventricular contractility, (*c*) some impairment of the conducting function. The man died rather suddenly, about three weeks after this tracing was taken.

I do not think it fair to argue that a polygraphic examination is of value in every case of heart disease ; indeed, it is possible to arrive at an adequate comprehension of most cases presenting cardiac irregularities without one, provided that the principles underlying the origin of arrhythmia are understood. Nevertheless, there are many cases in which tracings give information of vital importance, which cannot be arrived at in any other way. It is scarcely necessary to add that the use of the polygraph gives the individual practitioner, as it has already given the profession as a whole, a safe basis for action in cases of cardiac arrhythmia, instead of the harassing uncertainty to which we are subject unless armed with a knowledge of facts.



Case 5.

HERPES AND BRACHIAL NEURITIS.

BY

G. MUNRO SMITH,

Consulting Surgeon, Bristol Royal Infirmary.

I SHOULD like to preface this short communication by a fragment of personal history.

On April 21st, 1910, I awoke in the morning with pain in my left arm and shoulder, becoming very severe on movement, so that dressing was a great difficulty. For a few days before this I had experienced occasional slight pains in my limbs, which I thought were rheumatic; and the day before (April 20th) I had gone a long country ramble, which perhaps slightly tired me. I went on with my work for four days in great misery, and then succumbed, and was laid up for a month with what was soon recognised to be an attack of brachial neuritis. During the early part of the attack I could only get comparative freedom from pain by lying on my face or on all fours, and I actually spent the night in the latter position more than once. The pain, which never really left me, settled down into two severe exacerbations every night, one between 1 and 2 a.m. and the other between 3 and 5 a.m. I took chloral, veronal, and once morphia. I also took various other drugs; but nothing did me any real good except very gentle massage, warm bathing and diversion from the nocturnal pain by tea, which I took every night twice during my illness. During the attacks of pain my temperature rose to 100°, 100.5°, sometimes 101°. I had occasional slight œdema of the left hand, paræsthesia of radial side of the thumb, and hyperæsthesia of the whole of the left hand. The part affected was chiefly the root of the 7th cervical, but the inflammation was not strictly confined to this, and during my recovery the vaso-motor phenomena, the heat, redness, cyanosis and feeling of weight involved to some extent the right arm and very slightly the left foot.

Several medical friends were kind enough to see me, and even prescribed for me; but I felt much in the mood of Montaigne, who said, "I answer such as urge me to take Physicke that at least they will tarry till such times as I have recovered my health and strength againe: that then I may the better be enabled to endure the violence and hazard of their potions."

When one is brought into contact with a malady in one's own person one generally comes across similar cases, so I was not surprised to hear from several of my friends and patients that they had suffered from brachial and other forms of neuritis. But in the latter part of the year I saw two real cases of brachial neuritis—one in an elderly woman and one in a middle-aged man. Soon after a patient of mine had a typical attack of the complaint. When I say typical, I may perhaps explain my meaning by saying that it conformed to the description by Gowers, which is one of the best accounts of the disease I know. In November I had a case in a young woman involving the circumflex and branches of the musculo-spiral. In February of this year I saw a young married woman with brachial neuritis. The same month I saw a servant-maid with the same. On April 14th I saw a lady, aged 65, who was taken ill at Naples on April 6th with temperature, extreme drowsiness and slight intestinal disturbance. On April 7th her right arm became affected, chiefly branches of the ulnar. Besides these I heard of other cases which I did not see.

In October, 1910, I saw an old lady with severe herpes frontalis. On January 21st of this year I saw a lady, aged about 33, with herpes zoster. She suffered very severe pain, especially at night, and spent two or three nights walking about, restless with pain.

On January 25th I saw a young man, aged 25, with the same complaint, and on February 6th I saw a nurse, aged 40, with bad herpes zoster. Her pain was very severe, but was partially controlled by full doses of chloral and bromide.

Towards the end of April one of the cases I have referred to as ulnar neuritis developed redness and hyperæmia on the hypothenar eminence and three or four very minute vesicles.

I heard of several other cases. In fact, there could be no doubt that there was a prevalence of herpes, especially herpes zoster; and it is a well-known fact that herpes zoster occurs in epidemics. Accounts came from various parts of England of similar epidemics. Dr. George Parker and others recorded the prevalence also of "anterior poliomyelitis."

In an excellent article on the pathology of herpes zoster, by Drs. Head and Campbell, in *Brain* for 1900, Part III., the close similarity, pathologically, of these two diseases is forcibly pointed out, the authors contending, and I think with convincing arguments, and proofs derived from *post-mortem* examinations, that herpes zoster is a disease, probably microbial in origin, of the posterior root ganglia; that it is, in fact, a "posterior poliomyelitis," the ganglia corresponding physiologically with the anterior grey cornua.

If it be granted that this is so, may we not go a step farther and include brachial neuritis in the same category as an infective disease of the posterior nerve ganglia? The fact that both diseases have a distribution pointing to a radicular and not a branch origin in so many cases is in itself a strong argument as to their pathological affinity. Then, again, the preceding *malaise*, sometimes very slight, but frequently present; the great pain, the loss of sensation or paræsthesia during and following the attack; the occasional rise of temperature, the apparent occurrence of both complaints in outbreaks or epidemics, and the spreading of the original lesion to other neighbouring parts of the nervous system, etc., all point to a strong similarity. The fact that the posterior ganglia are more isolated than the nerve cells of the anterior cornua would limit the lesion more in these cases than in anterior poliomyelitis.

As to the method by which the infection enters the system, it seems likely that this in both cases may be the gastro-intestinal tract. In two of my cases there was considerable disturbance of digestion before the attack, and it is of interest perhaps to note that in my own case any indigestion seemed invariably to increase the severity of the pain.

I am aware that this idea of the pathological identity of

herpes zoster and brachial neuritis is only a speculation on my part. I have no knowledge of nervous diseases to justify me in bringing it forward except as a suggestion, the outcome of that greater interest in a malady induced by painful personal experience.

THE BRISTOL MEDICAL LIBRARY.

BY

L. M. GRIFFITHS, M.R.C.S. Eng., L.R.C.P. Ed.,

Honorary Librarian to the Library of the Bristol Medico-Chirurgical Society (1890–93) *and to the Bristol Medical Library* (1893–1902).

IT is not till the beginning of the nineteenth century that there is any evidence that Bristol doctors felt the necessity of co-operation for study of books that would be useful to them in their work, and which it would be beyond their power to possess individually.

But in the first decade of that period there were in Bristol two flourishing Medical Reading Societies, the earlier of which has long ceased to be, while the other,[1] founded in 1807, has had a continuous existence to the present day, and is now, at least, as vigorous as ever, and is exceedingly popular.

Such Societies, however, admirable and useful as they are, have unavoidable limitations, as they are compulsorily restricted to only a few members. Therefore we find that in 1831[2] the need for more extended opportunities was met by the formation of the Bristol Medical Library, and in 1832 its home was in Orchard Street, a most convenient situation, as a large number of medical men were living in the immediate neighbourhood.

The building was that which had been used for worship by a body of French Protestants who, after the revocation of the Edict of Nantes by Louis XIV in 1685, had settled in Bristol

[1] For the history of this Society, see *Bristol M.-Chir. J.*, 1907, xxv. 222–36.

[2] See *Felix Farley's Bristol Journal*, August 13th, 1831.

in large numbers, and who at their first coming had been permitted by the Corporation to use the Mayor's Chapel[1] for their weekly services. But when the city authorities decided to use the chapel for themselves they granted, in 1729, a plot of ground to the Protestants for the erection of a building for their own use, and it was thus occupied till 1825, when their numbers had so dwindled that a building was no longer required.

In 1832 the Corporation granted the use of the premises to Dr. Kentish, Dr. Davies, and Mr. Mortimer[2] at a yearly rent of two pounds for a medical library. Part of the negotiations with the Corporation were carried on by Dr. Stanton.[3] The building still stands, and is now used for service by the Plymouth Brethren, who have had it since 1856.

Kentish, the founder of the Library and a generous contributor to it, was the first President, and held office till his death on December 8th, 1832. His successor was Dr. Carrick.[4]

At the fifth annual meeting on June 27th, 1836,[5] the Library contained 1,200 volumes, and it was reported that papers had been read at evening meetings, so that it is evident that the

[1] The Corporation at that time attended the Cathedral at their ordinary services.

[2] Edward Kentish, living at 27 Park Street, was physician to St. Peter's Hospital and the Dispensary. His name is familiar to the present generation in connection with the Kentish Baths, opposite the east end of the Cathedral. Kentish was President of the Anchor (Colston) Society in 1828.

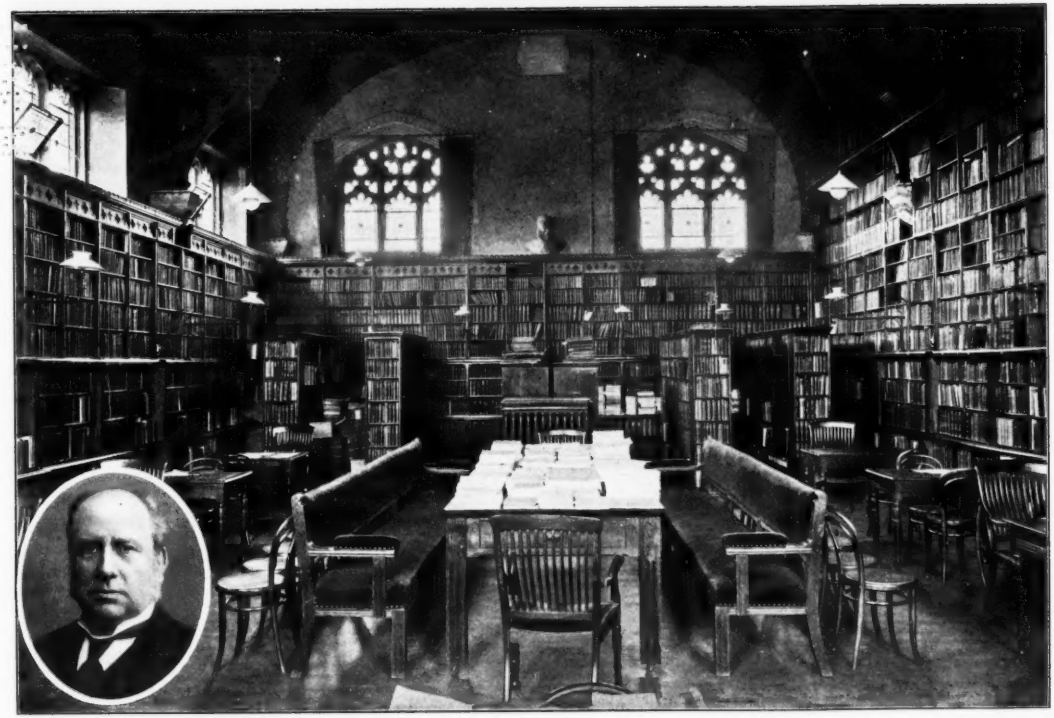
David Davies, who lived at 17 Park Street, was surgeon to St. Peter's Hospital, and lectured on medicine at the School in College Green.

William Mortimer, in practice at 33 Richmond Terrace, was an original member of the 1807 Reading Society, in which he continued until 1840. He was President of the Dolphin (Colston) Society in 1832.

[3] John Stanton, M.D., lived at 1 Richmond Hill. He was physician at the General Hospital from 1854 to 1856.

[4] Andrew Carrick, M.D., living then in Clifton Hill, was at the time Senior Physician at the Infirmary. He resigned in 1834, having held office for twenty-four years. At the election in 1810 he, the representative of the Tories, was successful by 448 votes against 216 recorded for the Whig candidate, Dr. J. E. Stock, the biographer of Beddoes, and who became President of the Anchor (Colston) Society in 1816. Dr. J. C. Prichard was a third candidate, receiving 81 votes. In 1833 Carrick was President of the Bristol meeting of the Provincial Medical and Surgical Association (founded in 1832), now the British Medical Association. Carrick, at the time of his death in 1837, was President-elect of the Dolphin (Colston) Society.

[5] See *Felix Farley's Bristol Journal*, July 2nd, 1836.



Inset, L. M. GRIFFITHS.

Photo, F. Bromhead.

LIBRARY IN OLD MEDICAL WING, 1911.

members were not confining themselves to Library work, and this explains the title of Bristol Medical Library Society, by which the institution was then known.

At the annual meeting on June 26th, 1837, with David Davies in the chair, it was necessary to appoint a new president in the place of Dr. Carrick, whose death had occurred on the 14th. Dr. Symonds,[1] in a most eloquent speech, after referring appropriately to the merits of Carrick, proposed the election of Dr. James Cowles Prichard[2] in exquisitely chosen phrases, which deserve the attention of every reader of the present day.[3] This was seconded by Mortimer. The Society re-elected Dr. Paris Dick[4] as secretary, Mr. Surrage[5] as treasurer, and Mr. Green[6] as librarian.

The institution known as the Bristol Library Society, formed in 1772 on subscription lines, had, through the negligence of the city authorities, usurped the building which in 1740 had replaced the house in King Street given in 1613 by Richard Redwood to the city for the purpose of a library for public use.

This anomalous state of things continued till 1854, when, as a result of the protest of some citizens, the King Street building was re-established for its original object, and the Bristol Library Society, having changed its title to that of the Bristol Library, moved in 1855 to the west wing of the Bishop's College, which stood on ground now occupied by the Art Gallery.

[1] John Addington Symonds, M.D., then living at 15 Park Street, was one of the physicians at the General Hospital. He had been elected at the time of its foundation in 1832, and retained office till 1844. He was also in 1837 one of the Dispensary physicians.

[2] He was living at the Red Lodge in Park Row, and was Senior Physician at the Infirmary, having been elected in 1816. He held office till 1843.

[3] The speech is reported at length in *Felix Farley's Bristol Journal*, and in *The Bristol Mirror* of July 1st, 1837.

[4] P. T. Dick, M.D., Beaufort Buildings, Clifton.

[5] Thomas Lyddon Surrage, Surgeon, 2 York Buildings, Clifton.

[6] Thomas Green, Surgeon, 9 Queen Square. He was surgeon at the Infirmary from 1844 to 1864. In 1843, upon the death of Richard Smith, he had lost the election with 283 votes against Henry Clark's 521. He was a Town Councillor from 1842 to 1853, an Alderman from 1853 to 1877, and died in 1878. In 1853 he was President of the Dolphin (Colston) Society.

LIBRARY IN OLD MEDICAL WING, 1911

In 1855 negotiations were begun for the transfer of the Medical Library to the custody of the Bristol Library, and in 1856 the transfer took place on conditions to which the Bristol Library consented in the following terms :—

(1) That the existing members of the Bristol Medical Library, being about forty in number, or such of them as shall assent thereto, shall be admitted as members of this Library on the footing of life members, paying each an annual subscription of one guinea and a half.

(2) That of this annual subscription the sum of fifteen shillings shall be applied to the purchase of medical works.

(3) That for the purpose of securing the best appropriation of these sums not less than three members of the medical professon being members of this Society shall be elected annually to be members of the general committee.

On reporting these conditions to a general meeting the Committee said that they believed " that the introduction of so considerable and influential a body of subscribers as will be added to the Bristol Library Society will largely promote the interest and prosperity of this Society, and considering the terms proposed to be liberal and advantageous, strongly recommend to this special general meeting to accept and confirm this report, and to give power to the Committee to effect the union of the two Societies on the terms proposed."

The report was adopted, and in 1856 the books were transferred. In March of that year the doctors passed over £15, the balance of their Library Fund, to the Bristol Library.

By March, 1857, thirty-eight medical works had been added, and in April it was decided to insure the whole medical collection against fire for £600. In November the medical duplicates were sold to the General Hospital.

In March, 1859, the Library was indebted £17 15s. 2d. to

the fund allotted for medical works, and it was determined to take steps to diminish general expenses.

The amount of indebtedness to the medical fund stood at £19 14s. 1d. in 1860, when £29 15s. 1d. had been spent in medical works.

In 1861 the insurance on the medical portion was reduced to £300. The doctors voted £15 15s. to the general library towards an increased subscription to Mudie's of £52 10s., accepting only £16 worth of books for the year instead of the £31 15s. to which they were entitled by the original terms. An appeal to Bishop Monk, the trustee of the property, for a reduction of the rent from £100 to £80, as in the first two years, failed. The sale of the building was contemplated.

The doctors upon being appealed to in 1862 for a renewal of their contribution to the subscription to Mudie's granted it. The Bishop's College had ceased to exist in 1861, and the property then passed to the ownership of the Bristol Rifles Head-quarters Company, which, proposing certain alterations, offered to reduce the rent by £20. Owing to the changes in the tenancy, the question of raising a fund for the purchase of premises was brought forward.

In 1863 this assumed a more definite form, as a resolution was received from the Bristol Philosophic and Literary Institution, which, founded in 1817, was carrying on its excellent work in Park Street in the building now known as the Freemasons' Hall. This resolution, which suggested union with the Library in a new building, was welcomed, and a sub-committee appointed to consider it as a practical measure. The doctors voted in March of this year a further contribution of seven guineas and a half for the Mudie subscription, but with an intimation that this was to be the last of the kind.

The question of amalgamation of the two institutions was delayed in 1864, and the Rifles gave the Library notice to quit in March, 1865, but a prolonged stay was arranged under different conditions. The Library was still bent upon acquiring premises of its own, and now proposed a plan in which one room was to be devoted to the Medical Library.

Negotiations in 1865 with the Victoria Rooms Company came to nothing, and the proposal for amalgamation with the Philosophical Institution took further shape and was finally arranged.

In 1866 the Library decided to make a general appeal to doctors to become members of the Library.

The insurance of the medical collection was raised to the original amount of £600 in 1867, in October of which year the medical members ordered the sale of their microscope.

Notwithstanding many difficulties, the project of a united building for the two institutions was carried on, and eventually in 1871 the Museum and Library in Queen's Road was ready for their joint occupation, and with this the Medical Library found a new home. Its condition there is familiar to many of us, and whilst we are ready to admit that it was rich in bygone literature, it was in no way adequate for contemporary needs.

The full records of the Museum and Library are not available, but from some of the annual reports it would seem that the medical portion of the Library had no definite recognition, although in that of 1877 there is a project of placing in an appendix to the general catalogue a list of the medical works, and in that of 1878 it is stated that a separate catalogue of the medical books was in preparation.

In the statement of accounts there is no separation of the amounts spent in the purchase of medical books as in the earlier days, when the amounts were as follows :—

1857	..	..	£28	2	0	1865	.. ..	£20 18 0
1858	..	..	22	9	10	1866	.. ..	17 4 3
1859	..	..	18	16	0	1867	.. ..	20 10 8
1860	..	..	29	15	1	1868	.. ..	15 16 0
1861	..	..	24	14	0	1869	.. ..	14 16 0
1862	..	..	19	11	3	1870	.. ..	18 9 6
1863	..	..	19	1	4	1871	.. ..	17 2 3
1864	..	..	20	13	0			

The Museum and Library did not receive the public support it expected, and after a languishing career it passed in 1893

(through the generosity of the shareholders and the liberality of Sir Charles Wathen, who undertook the payment of all outstanding liabilities) to the ownership of the city.

Before this, the establishment[1] of the *Bristol Medico-Chirurgical Journal*, under the auspices of the Bristol Medico-Chirurgical Society,[2] which had been founded in 1874 mainly through the efforts of Dr. Shingleton Smith, had opened out new possibilities. From its beginning in 1882 it had received a large number of exchange-journals and many books for review. At first the periodicals were materially dissected for the convenience of those who wrote the medical periscopes, and the books became the property of those who reviewed them. In course of time a general feeling arose that much valuable matter was being lost to the majority of the members of the Society, and the desirability of forming a library was brought before the Society on February 8th, 1888, when the question

[1] For notes on this see *Bristol M.-Chir. J.*, 1891, ix. 243, and 1900, xviii. 101.

[2] Other societies bearing somewhat similar titles had preceded it. In 1812 serious unascertainable differences arose in the 1807 Reading Society (see *Bristol M.-Chir. J.*, 1907, xxv. 227). Daniel (who was surgeon at the Infirmary 1810–36, and Master of St. Stephen's Ringers in 1817) and Edgell (who in 1812 was living at 2 College Street, afterwards removing to 17 College Square, now Lower College Green, where his name is still to be seen on the garden wall of the present Deanery) resigned in March, Lax and Nathaniel Smith in April, and Crang in May. These, with eleven who did not belong to the Reading Society, decided to form "The Medical and Chirurgical Society," to consist of twelve members, having the same objects as the 1807 Society—in fact, merely another Reading Society, with the added attraction of a supper at each meeting.

On the initiative of the Infirmary doctors, who constituted the Committee, "The Medical and Chirurgical Association" was formed in 1819 to deal with ethical matters and the question of fees. The members were to meet twice a year and dine. Richard Smith (surgeon to the Infirmary from 1796 to 1843, when he died, and to whom the profession of to-day is so largely indebted for his scientific zeal and literary industry) was secretary, but resigned in the following year. He was President of the Dolphin (Colston) Society in 1822, and Master of St. Stephen's Ringers in 1826.

The meeting on June 18th, 1840, when it was decided to adopt the proposal of June, 1839, to form a Bristol branch of the Provincial Medical and Surgical Association, now the British Medical Association, was held in the Orchard Street Medical Library. (See *Felix Farley's Bristol Journal* and *Bristol Mirror*, June 20th, 1840, and *Bristol Gazette* and *Bristol Standard*, June 25th, 1840.) Cowles Prichard was the first President and Richard Smith the next. G. H. Hetling was secretary from 1839 to 1847. The proceedings at a dinner held after the meeting lasted from half-past five till midnight. The Bath branch had been formed in 1836. The two were united in 1841. (See *Brit. M. J.*, 1882, i. 956.)

was relerred to the committee to report. They came to the conclusion (1) that a library is desirable; (2) that it should be in conjunction with the Medical School; and (3) that inquiries be made as to what temporary plans can be formed pending the erection of new Medical School buildings.

No definite result followed this, but there was a widespread feeling amongst the members generally that a beginning should be made irrespective of the Medical School; and on May 14th, 1890, the matter came again before the Society which passed *nem. con.* an instruction to the committee "to present at the October meeting a formulated scheme for a Medical Library to be founded under the auspices of the Society."

The committee, meeting on June 7th, received a communication signed by fifty-four members of the Society requesting that arrangements should be made for enabling the members to consult the medical periodicals received through the *Journal*, and for the formation of a Medical Reading Room. At the same time application came from other local scientific societies asking for co-operation in founding a club which should have for one of its objects the gathering together of all these societies under one roof. From these communications followed the establishment, at 28 Berkeley Square, of the Literary and Philosophic Club, where accommodation was offered to the Society, and this proposal met with the unanimous approval of the committee on September 24th, 1890, and they recommended to the Society the following scheme, which was adopted at the general meeting in October:—

(1) The Society shall rent a room or rooms for the purpose of a Medical Reading Room and Reference Library to be known as "The Library of the Bristol Medico-Chirurgical Society."

(2) The Library shall be open not earlier than 10.0 a.m., and not later than 11.0 p.m., and shall be free to all members of the Society.

(3) It shall be managed by the committee of the Society, who shall annually appoint an Honorary Librarian.

(4) All exchange-journals and books[1] received through the Society's *Journal* shall be placed in the Library.

(5) All books and periodicals therein shall be in the custody of the Honorary Librarian, who shall be responsible for the due care of the same.

(6) A book shall be kept in the room to receive suggestions from members for increasing the usefulness and comfort of the Library. All such suggestions shall be considered by the committee at their next meeting, and answers thereto entered in the book.

A sub-committee was appointed to carry out details, and on January 5th, 1891, amid comfortable and well-appointed surroundings, the President of the Society formally opened "The Library of the Bristol Medico-Chirurgical Society." By the aid of generous gifts of money and books (including a large donation from the British Medical Association), a start was made with over a thousand volumes and seventy-nine current journals. It had been decided that *active* canvassing for the Library cease for the time, and that it be transferred under proper guarantee to the Library in the new Medical School Buildings. The Librarian was empowered to spend in the purchase of books, in addition to the amounts collected for Library purposes, a sum not exceeding £100 from the accumulated profits of the *Journal*.

In 1891 the conduct of the *Journal*, which hitherto had been in the hands of the Editor and Assistant-Editor, was passed over to a Committee which consisted of these and four others to work in co-operation. The value of the *Journal* as a handmaid to the Library has been constant, and can scarcely be overrated.

At Berkeley Square the Library remained till July 1st, 1893, when the books were moved into a magnificent apartment

[1] The achievement of this most desirable object was rendered easy by the exemplary self-denial of the reviewers of books, who consented that the volumes should no longer be their property, but should find a place in the Library for consultation.

specially constructed for library purposes in the Medical School, The new building had been opened on November 16th, 1892, and in the meantime an arrangement for a joint library had been made with University College,[1] which did much to make the scheme a success, and contributed greatly to the convenience of the members. The management was vested in a committee consisting of three representatives from the Medical Faculty of the College and three from the Society. The first Chairman was Greig Smith, who took the warmest interest in the development of the Library.

The Medical School had no library, but books in large numbers soon came in, and both sections of the Library grew rapidly. In 1891 the Society had 1,879 books and 79 current periodicals. In 1901 the numbers were 9,371 and 189 respectively, and now at the end of another period of ten years the figures are 11,619 and 190. While owing to the advantages of the conjoint scheme members of the Society can consult 21,929 volumes and 249 periodicals. The progress of the Library is fully chronicled in detail in the annual reports presented to the Society, and printed in the *Bristol Medico-Chirurgical Journal.*

Through the influence and energy of Greig Smith nearly all the books belonging to the Infirmary and the Hospital were added in 1894, and, later on, the medical books from the Museum and Library, which, of course, included many from the old Orchard Street collection, were passed on by the city authorities to become once more taken care of in a reconstituted "Bristol Medical Library."

[1] This, with some of its after-modifications, is printed in the Society's booklet recently issued.

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Bristol M.-Chir. J., 1890, viii. 287; 1891, ix. 66, 215, 246, 313; 1892, x. 284, 332; 1893, xi. 282; 1894, xii. 330; 1895, xiii. 316; 1896, xiv. 373; 1897, xv. 367; 1898, xvi. 369; 1899, xvii. 368; 1900, xviii. 102; 1901, xix. 284, 376; 1902, xx. 376; and later references.

Progress of the Medical Sciences.

MEDICINE.

ATTENTION is drawn by Hort[1] to the very extraordinary diversity of opinion which exists at the present time as to the many practical points in the administration of tuberculin. Some competent observers hold that safe and efficient dosage should not exceed a small fraction of a milligramme of tuberculin T.R. Others report that they have given with safety and good results the stronger preparation T.O.A. in doses half a million times as great. Some maintain that tuberculin should only be used with the most careful clinical control; others that it may be used in relatively large doses with casual dispensary inspection.

Four kinds of reaction to tuberculin are known: (1) the local; (2) the focal, at the seat of the disease; (3) the general; (4) the reaction in vitro of certain of the body fluids, serum, blood, urine, milk, to certain artificially prepared reagents of the laboratory.

The local and focal reactions are the expression of an increased susceptibility of the tissues to the action of a substance to which before tubercular infection there was practically no susceptibility. These two reactions are a good example of the lowered resistance to the disease, on which increased resistance ultimately depends. Anaphylaxis is one of the body's greatest weapons in prophylaxis and cure. The detection of this anaphylactic state is the basis of the diagnostic use of the local and focal reactions produced by tuberculin administration.

It is the utilisation of this state which makes the therapeutic use of the tuberculin rational. On what exactly these local and focal reactions depend is at present unknown. With reference to the general action, it appears probable that this is due to the absorption of toxic material from the host's own cells which has been liberated owing to the action of the inoculated tuberculin on the focus of disease. A focal reaction is essentially a hyperæmia, and without this focal hyperæmia it is held that no general reaction can occur. Therefore an adequate dose of tuberculin in a tuberculous subject gives rise to a true auto-inoculation. The real goal of hetero-inoculation is successful auto-inoculation.

Tuberculin should not be used for diagnosis subcutaneously unless all other means of arriving at a diagnosis have been used, because (1) it is not always harmless even in the absence of such diseases as nephritis, cardiac disease or diabetes, all of

which are held to be contra-indications to its use ; (2) a positive reaction may be obtained in quiescent tuberculosis ; (3) in advanced cases it often happens that no free so-called antibody necessary to the production of the reaction is present ; (4) there must be an absence of marked remittent or intermittent fever ; (5) there must also be an absence of syphilis, leprosy and actino-mycosis, since a reaction may occur in these diseases even when they are not complicated by tuberculosis ; (6) skilled clinical observation must be available for the detection of any slight increase in the physical signs in the focus of disease, as this evidence is one of the most valuable signs that a true reaction has taken place.

In using tuberculin treatment the aim should be directed towards the production of mild degrees of focal hyperæmia, which should be far below the plane of clinical observation. In chronic mild pulmonary tuberculosis an initial dose of $\frac{1}{20000}$ of a milligramme of T.R. may be given, gradually increasing to $\frac{1}{1000}$. In more active disease the initial dose should be $\frac{1}{100000}$. Good results are recorded from the Continent from much larger doses, *e.g.* even 1,000 milligrammes of T.O.A. If the dose is excessive quiescent disease becomes active, active disease more active.

Hort hopes shortly to have ready a method of measuring the reaction between antigen and antibody, and of thus producing a method of blood examination which will help the clinician to form a sound judgment as to the wisdom of employing tuberculin in any given case.

Krause,[2] working on the question of immunity to tuberculosis, draws several conclusions from his work on guinea-pigs. Among the main results of his investigations, he shows that guinea-pigs may be specifically sensitised by tuberculo-protein introduced by any parenteral route. These experiments on guinea-pigs further suggest that it may be quite possible to sensitise a non-tuberculous human subject with a von Pirquet, or intradermic or subcutaneous test, and that as a result of this the individual would later give a reaction to larger doses of tuberculin. Acute anaphylaxis was developed by toxic injections given post-orbitally or intravenously. Probably any of the products of the tubercle bacillus will sensitise guinea-pigs. The shortest incubation period noted has been six days, the longest two hundred and eighty-six, the size of the sensitising dose bearing no relation to the period of incubation. Once sensitiveness to the tuberculo-protein is acquired by a non-tuberculous animal, the repeated absorption of more protein tends only to increase the condition. Tolerance to tuberculo-protein cannot be attained in the non-tuberculous animal by gradually raising the dosage or diminishing the intervals of time between doses.

Very little work appears to have been done to establish the relations between hyper-sensitiveness to the products of a given micro-organism and susceptibility to infection from it. Experiments have, therefore, been carried out to ascertain whether guinea-pigs sensitised to tuberculo-protein would be more or less susceptible to experimental tuberculous infection than normal animals. The animals which were sensitised all became diseased, evidence which strengthens the opinion that sensitisation to a bacterio-protein does not carry with it an immunity to infection; further, hyper-sensitiveness and increased resistance, two different things, can co-exist in the same animal.

Other investigations on pulmonary tuberculosis carried out by Caulfield [3] and Beatty seem to show that certain classifications of the disease may be tentatively drawn by gauging the tuberculin sensitiveness, by using the reaction of complement fixation, and by certain opsonic observations. Possibly different tubercular subjects may overcome their infection along different biological paths.

From work done by Caulfield [4] on serum reactions in which the hæmolytic system consisted of sheep's corpuscles, anti-sheep rabbit serum and guinea-pig complement, it appeared that a positive test might be obtained upon a specific and non-specific basis. Tuberculous sera can be divided into two classes by their interaction with antigens derived from tubercle bacilli, and used in so-called anti-complementary strengths.

1. *Inhibition.*—Sera with this effect allow hæmolysis on the addition of the hæmolytic system because their sera-antigen resultants are repellant to complement (all clinical normals with positive tuberculin reactions and many suspects showed this in a more or less degree).

2. *Tuberculous sensitisers.*—Sera with these specific bodies cause the fixation of the complement, shown by complete absence of hæmolysis.

These biological classifications carry with them to a certain extent comparable clinical tendencies, and certain prognostic values attributable to the type of tuberculin reaction may be further narrowed and safeguarded.

The production of immunity by the inoculation of living tubercle bacilli has been attained in the guinea-pig by G. B. Webb and W. W. Williams. [5] An animal was inoculated weekly for nine months with a tubercle culture from which one hundred and fifty bacilli had been found to infect a guinea-pig. The inoculations were made subcutaneously, and began with two live bacilli, increasing to 5, 16, 20, 28, 40, 55, 75, 100, 150, 200 and so on, until at the end of seven months it had received 42,235 living bacilli and remained perfectly healthy. The animal was now tested with tuberculin according to the method of Römer, and gave a negative reaction. Inoculations were

continued till the end of the ninth month, when 141,835 living bacilli had been injected. The animal was then killed owing to an epidemic of guinea-pig cholera. There were no tubercular lesions at the inoculation points, and no sign of tubercular infection elsewhere. Pieces of both lung apices, liver, spleen, kidney and one small inguinal gland were ground up in salt solution, strained through gauze and injected intraperitoneally into a guinea-pig. Seven months later this animal was killed, when no evidence of tuberculosis could anywhere be discovered.

A guinea-pig has therefore received, without any production of tuberculosis, about one thousand times a lethal dose of living virulent bacilli. Inoculations along similar lines are being carried out on monkeys.

Multiple arthritis after the injection of tuberculin. Hæmoptysis, broncho-pneumonia, pleural effusion, miliary dissemination of tuberculosis, angina pectoris, hemorrhagic nephritis and tetany may all result from the injection of large doses of tuberculin. Diem records a case[6] in which an injection of 0.5 mgm. of tuberculin T.R. was made in the right forearm. The following day the temperature rose to 102.2, the right forearm becoming œdematous and red. In the right wrist joint and in all the joints of the fingers much effusion appeared, the overlying skin becoming livid. The right axillary glands became enlarged and tender. The temperature became normal on the seventh day, and the swelling of the joints had disappeared on the tenth. The tuberculin was sterile and used without complications in other cases. The syringe had been kept in alcohol and the skin cleaned with alcohol. There was no sign of suppuration. It is interesting to note that all the affected joints were distal to the site of the injection.

J. R. CHARLES.

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[1] E. C. Hort, *Quart. J. Med.*, 1911, v., 377.
[2] A. K. Krause, *J. Med. Research*, 1911, xxiv. 361.
[3] A. H. Caulfield and J. C. Beatty, *Ibid.*, 103.
[4] A. H. Caulfield, *Ibid.*, 101.
[5] G. B. Webb and W. W. Williams, *Ibid.*, 1.
[6] Diem, *München. Med. Wchnschr.*, 1911, lviii. 254; abstract in *Med. Rev.*, 1911, xiv. 377.

SURGERY.

Anatomically **cervical ribs** are not uncommon. As, however, only a small proportion give rise to symptoms they are clinically rather rare. The symptoms they may give rise to are interesting in themselves, apart from the fact that difficulties and errors

in diagnosis are still common. These have been, however, lessened since the advent of the X-rays. It must be remembered that even a skiagram of this condition may be interpreted incorrectly, as mentioned by Howard Williams.[1]

Cervical ribs are usually bilateral, though their symptoms are usually unilateral. The rib may be "floating" with its extremity free somewhere in the neck, or it may have an attachment to the first rib or sternum by bone, cartilage or fibrous tissue. It usually originates from the transverse process of the sixth or seventh cervical vertebræ. The symptoms it gives rise to are referable to the nerves amongst which it lies, or to the circulation through the subclavian artery which crosses it. Also sometimes a lump may be complained of in the neck, and the wearing out of the clothes from pressure on this spot. The symptoms are not usually complained of until adult age, Murphy[2] giving twenty-seven years as the average in twenty-nine cases. Spellissy,[3] however, had to operate on a case twenty years of age; Williams on one of eighteen, who had been watched for over a year with symptoms getting steadily worse; and Hessert[4] quotes a case of a girl of sixteen in whom, following a fracture of the clavicle, the cervical rib was found accidentally, it giving rise to no special symptoms. The cervical ribs are at times found associated with other deformities, and Royal Whitman[5] mentions such a case in a boy of ten years, who had also congenital torticollis, spinal curvature and meningocele. The symptoms produced by pressure on the nerve trunks (Murphy[2]) vary from slight tingling in the forearm and hand to complete paralysis in the area supplied by the compressed nerves. In the early manifestations the symptoms are increased and diminished by changing the position of the arm. Elevation of the shoulder and arm relieves the nerve pressure, and the patients find that they rest more comfortably at night with the arm above the head, and that the boring neuralgic pains and numbness are relieved by elevating the shoulder and supporting the body on the elbows. As the pressure becomes more severe and continued, the paræsthesia and paresis are followed by anæsthesia and paralysis. The numbness and tingling announce the existence of pressure for months or even years before paralysis develops. The muscles of the forearm fatigue on very slight exertion. These cases are most frequently diagnosed as brachial neuralgia, neuritis, etc. Lilienthal[6] quotes a case in which, in addition to pains of a cramp-like character radiating down the arm to the finger-tips the patient

[1] *Ann. Surg.*, 1898, xxviii. 509. [2] *Ibid.*, 1905, xli. 399.
[3] *Ibid.*, 1907, xlv. 638. [4] *Ibid.*, 1906, xliv. 630.
[5] *Ibid.*, 1905, xlii. 123. [6] *Ibid.*, 1905, xli. 766.

also complained of palpitation of the heart, occasional difficulty in swallowing, and of a girdle-like sensation about the throat. The change in the circulation is peculiar and striking, and involves the arterial, never the venous, current. If the patient presses his hands firmly together there will be a rapid return of circulation to the " life glow " on the normal side, while on the diseased side the hand remains blanched, wrinkled and cold from a minute to a minute and a half, resembling the prodromal pallor of impending Raynaud's disease. Cold water may thus feel many degrees colder on the affected than on the healthy side. There is no evidence of venous stasis. This is explained by the fact that the subclavian vein passes in front of the scalenus anticus, whereas the artery passes over the rib and behind the muscle, and may be kinked or flattened over the rib or compressed between it and the muscle. Where the pressure had been great and continuous, records of cases show that an obliterating endarteritis took place, and in some cases was followed by gangrene. More often, however, although no radial pulse could be felt, the anastomotic circulation was sufficient for the nutrition of the limb. Murphy suggests that when it was not so there had probably been a sudden and severe trauma of the artery in its exposed position which might produce thrombosis and necrosis. The sudden trauma of the artery could weaken its walls so that an aneurism would be produced, and this has undoubtedly occurred. But the diagnosis of aneurism should not be accepted in these cases except where a dissection and exposure of the artery has been made.[2] Owing to the artery being carried more forward, and its pulsations being more prominent, this error in diagnosis has frequently been made. In Murphy's case he says he could scarcely convince himself that aneurism was not present on account of the broad pulsation, as well as lateral expansion signs. The broad surface was, however, due to the flattened condition of the subclavian artery over the wide terminus of the rib. The bruit was present and extended in a downward direction, more marked with the shoulder depressed. With depression there is frequently an absent or diminished radial pulsation ; when the shoulder is elevated the pulsation again becomes normal. In a number of cases radial and brachial pulsation were absent, and did not return after the relief of pressure by removal of the rib. In Lilienthal's case the left pulse was completely obliterated on deep inspiration. There was a bruit over the left subclavian artery which ceased on deep respiration, and reappeared with increased loudness after holding the breath. In addition to the errors in diagnosis already referred to, the rib itself has been mistaken for an exostosis, osteo-sarcoma, or other tumour. Eisendrath[1] gives an epitome of thirty-four cases,

[1] *Amer. Medicine*, 1904, viii. 322.

on twenty-one of which operations were performed. In two of the cases, aged 15 and 17 respectively, there were no symptoms. The results of the operations were on the whole satisfactory, though it is obvious that it is a difficult proceeding. In several cases the pleura was wounded, and in two or three the nerve symptoms were temporarily increased by the operation. In almost all where the radial pulse was obliterated this was unaltered by the operation, and in some of the cases no improvement took place in paralysis affecting portions of the hands. As a rule an incision was made over the swelling in the neck. Lilienthal split the fibres of the sterno-mastoid, and Murphy says he made his incision at the posterior border of the scalenus anticus. The subclavian artery was displaced forwards, and the nerves of the brachial plexus inwards. Great care has to be taken in separating the nerves from the rib, as they are very liable to injury, as indicated by increase in the nervous symptoms immediately after operation. It is very important to remove the periosteum with the rib. The writer knows of a case where this was not done, and the rib was reproduced with return of symptoms. The writer has also had another case recently under his observation the details of which are as follows :—

Male, æt. 40, nine months ago complained of pain and numbness down right arm ; found the affected arm colder than the other, and thought it became very fatigued after using it for a short time. There was wasting of the arm, and of the muscles of the thenar eminence, with weakness of the arm, and complete absence of the radial pulse. A lump and pulsating tumour were formed above the clavicle. He had been treated for aneurism with iodide of potassium, etc., with relief to his symptoms, and he did not wish for an operation. Murphy says " all cases should be operated as soon as diagnosed."

Wounds of the thoracic duct during operation are sufficiently rare to be of interest. The writer has recently had a case in his own practice. After the removal of a malignant growth from the root of the neck, which was firmly adherent to the lower end of the internal jugular vein on the left side, a flow of clear thin fluid was observed from the depths of the wound. Numerous attempts were made to find the leaking spot and clamp it with forceps. For a long time these were unsuccessful. A spot was finally caught which appeared to arrest the flow, and this was ligatured, and the wound closed. During the succeeding twenty-four hours the dressings were saturated with discharge, and at the end of the second day a fluctuating swelling about the size of a hen's egg had appeared under the lower end of the sterno-mastoid. The patient complained of hoarseness of voice and a pain in the right side of the chest. A dressing was applied very firmly with an elastic bandage, and there followed some

swelling of the arm and some blueness of the hand and left side of the face. Within a week the swelling was gone, there having been no discharge from the wound for a day or two before this, and the patient soon recovered completely with very little upset. The healing of the wound was delayed somewhat. De Forest[1] in a paper on this subject points out that these injuries are not nearly so fatal as used formerly to be supposed. He mentions two deaths in 31 cases, and certainly one of these may have been due to other causes than the injury to the duct. It appears that if the flow of chyle can be stopped (and it generally can be some way or other) the patient is most likely to recover, and furthermore this is likely to happen even if there has been leakage for a considerable time, and some emaciation has followed. In experiments upon animals it was found in dogs that when the duct was completely occluded there was merely a temporary impairment of nutrition, but that if the duct were cut through without ligaturing it a profuse chylorrhœa occurred, which if not checked will lead to progressive loss of strength and finally to death. The anatomy of the duct is not thoroughly understood, and probably is subject to great variation. There is no doubt that Nature has provided anastomosing channels by which the chyle can be carried into the general circulation after injury of the main duct. Sometimes the latter opens into the vein by many openings, as in the delta of a river; and when an injury occurs it is improbable that all these channels are damaged, but only the main trunk, so that the others are capable of dilatation and carrying on the chyle. Most of the cases have shown a flow of milky fluid at the time of operation, but in some this has not occurred until two or three days later. In many circumscribed œdema or a fluctuating swelling has occurred in the neck, and in some (as in my own case) œdema of the left side of the face and left arm. In many cases following tamponade of the duct the patient complains of a pressure in the thorax. De Forest submits that the correct treatment of a wounded thoracic duct is the same as that of a wounded artery. He says the following methods of treatment must be considered: (1) ligature, (2) suture, (3) suture of the enclosing tissues, (4) application of an artery clamp, (5) compression by firm tamponade. Preference should be given to that method which will certainly check the chylorrhœa at once. Finally the following conclusions are drawn:—

(1) The thoracic duct probably has collateral branches always which are able, in case of accident, to perform the function of the main duct. Further anatomical investigation concerning this are greatly to be desired.

(2) The sudden closure of the duct in man has had as its result only transitory disturbance in the nutrition of the body.

[1] *Ann. Surg.*, 1907, xlvi. 705.

(3) Chylorrhœa occurring after a wound of the duct must, if possible, be immediately controlled.

(4) The wounded thoracic duct may be treated precisely as we would treat a wounded blood vessel.

(5) Suture is the ideal method. If it is technically possible, its use is to be preferred, since the duct then remains patent.

(6) In all cases where suture is impossible a ligature should be applied. If ligature is technically impossible then in order of value, suture of the tissue, application of clamps, and in emergency as a last resort tamponading should be applied.

HAROLD F. MOLE.

Reviews of Books.

Traité Internationale de Psychologie Pathologique. Edited by Dr. A. MARIE and Collaborators. Tome ii. Pp. xxiii, 1000. Paris: Félix Alcan. 1911.

This the second volume well sustains the high level reached by the first. The subjects dealt with are of much interest to the practical alienist, including neurasthenia and the psychoneuroses, syphilis and various organic affections in relation to mental disorders, general paralysis, various forms of dementia, the degenerescent, chronic and systematised psychoses, precocious dementia, cyclothymic, toxic and confusional states. In such a work as this, where the contributors are numerous, a certain loss of serial continuity and some overlapping of subjects is inevitable, as is also some discrepancy of opinions. Moreover, the several papers complete in themselves are often too elaborate disquisitions for the student, and needlessly retrospective for the advanced reader. Such defects are inseparable from these joint-stock productions, but capable editing has reduced them so far as is possible.

There are many eager investigators into morbid psychology, and we are at present liable to numerous temporary schemes of classification and nomenclature, which in their transitional state occasion no small perplexity to the student. Thus the elaboration of such syndromes as dementia precox, the paranoical and allied states, the various forms of chronic systematised delirium, toxic states of confusional psychosis has quite doubled the space required for a treatise on insanity but a few years ago. In this work all the debatable points in connection with these are fully discussed, and it is apparent

that even now much will remain debatable for the present. The morbid brain is capable of producing a great number of kaleidoscopic variations in its symptomatology, and it will be found necessary in time to eliminate many superfluous combinations which are at present exploited as constant syndromes. This filtration process is already at work—in dementia precox, for example. A good deal is written as to the relations between paranoical and paranoidal delirium, between the latter and chronic systematised insanity; but these are complex matters and much in the stage of academic discussion only.

Dr. Marie's article on General Paresis is all-embracing. He emphasises the manifold nature, perhaps origin, of this affection. In so far as the Wassermann positive reaction represents syphilis, so do his and Levaditi's findings support the parasyphilitic origin of general paresis. Recent observers have not supported these large percentages, nor do they admit the diagnosis unless a positive cerebro-spinal fluid reaction is obtained No confirmation, but the reverse, is given to Robertson's claims as regards the specific action of the bacillus paralyticans in general paresis. Marie lays stress on the therapeutic importance of Wassermann reaction in deciding the transition of syphilis to parasyphilis in presumably syphilitic general paralytics By comparing parallel reactions of serum and cerebro-spinal fluid this stage he thinks may be estimated and the propriety or not of specific mercurial treatment resolved upon. The other sections of the work do not call for special comment; they are all good, and of a part with the general production as regards printing and illustrations—we cannot add binding.

The Chemistry of Synthetic Drugs. By PERCY MAY, B.Sc. Pp. xiii, 229. London: Longmans, Green & Co. 1911.

In this book a considerable number of the synthetic drugs and also of other bodies used in medicine, such as the alkaloids, glucosides and terpenes, are dealt with almost entirely from the chemical point of view. As the author acknowledges in his preface, the book owes a considerable debt to Frænkel's *Artzneimittelsynthese;* in fact, a large number of the chapters are modelled on that work, and the greater part of the references seem to be drawn from the same source. Certain chapters, such as those relating to the adrenaline bodies and the arsenic and antimony compounds, are derived from sources more recent than Frænkel's second edition, which was published in 1906, and the account of the morphine group of alkaloids has also been brought up to date. On the other hand the chapter on glucosides, camphor and the glycerophosphates might, we think,

have been expanded with advantage; the account of the glucosides especially being meagre, as is also the case in Frænkel's book, where only two pages are devoted to this group of bodies.

Mr. May begins his book with a glossary of terms, the exact object of which is not quite apparent. It seems to us obvious that those who require to be told the meaning of the word "styptic" will not be in a position to read with advantage a book dealing with the advanced chemistry of drugs; nor will those whose knowledge of chemistry does not extend to the comprehension of the term "alkyl" be able to follow the complicated structural formulæ which occur on almost every page with either facility or profit.

The arrangement and contents of the first three chapters do not differ from those in other works on the same subjects, and include the action of synthetic compounds, the effect of various radicles and elements, and the chemical changes occurring in drugs when introduced into the organism. The detailed account of various bodies which follows suffers, we think, from the fact that it is written too exclusively on chemical lines; the author gives but little pharmacological detail, and is evidently not in a position to deal with the practical and clinical values of the numerous remedies enumerated. Thus cosaprin is merely stated to be "inert," exalgin "toxic," euphorin "irregular in its antipyretic effect." Drugs which have obtained some vogue in practice, such as cryogenia and maretin, are not mentioned, so far as we have been able to ascertain. Frænkel, it is true, devotes only a line or two to each, but there is a considerable literature available on both elsewhere. Veronal sodium (medicinal) is mentioned as being valuable on account of its solubility, although from the practical standpoint this statement requires considerable modification.

No mention is made, again, of urea and quinine hydrochloride, which has recently come into prominence as a local anæsthetic, though several of the older quinine compounds are briefly dealt with.

The loose way in which the author deals with pharmacological points is illustrated on page 51, where with regard to phenacetin he states that "its antipyretic action is due to increased heat loss from the surface of the body"—a remark equally applicable to the action of a cold bath—and further that the analgesic action "is *mainly* due to its action on the sensory tracts of the cord." The italics are ours.

In the short account (on page 190) of the theories regarding the physiological action of organic arsenic compounds of the atoxyl type, the important contribution of Boeinl and Nierenstein to this subject is not mentioned.

From the pharmacological point of view, therefore, the

book appears to us deficient, but from the chemical standpoint we regard it as a creditable attempt to bring together a selection of the material contained in Frænkel's large work, with other more recent synthetic processes in pharmaceutical chemistry.

We have detected remarkably few typographical mistakes, which in a book so full of formulæ is evidence of very careful proof reading. On page 49 " absorption " should be " adsorption " ; on page 59 in the formula for sulphonal H_2 should stand for H ; on page 128 " fushion " should be " fusion " ; on page 178 potassium " iodide " should be " bromide " ; on page 200 " tarter emetic " should be " tartar emetic." We also think that it is a mistake to print the same formula in a different way on different pages as is done for pyrazolon derivations on page 20 and page 65, and for ecgonine on page 88 and page 91. On page 125 stypticine should be described as the hydrochloric acid salt of di-hydro-isoquinoline.

Quinquennium of Medicine and Surgery, 1906 to 1910. Edited by J. W. BALLANTYNE, M.D. Pp. 411. Edinburgh : Wm. Green & Sons. 1911.

In vol. xxvii., p. 259, we gave a short notice of the last volume (No. X) of Green's *Encyclopedia and Dictionary of Medicine and Surgery*. It was then stated that the promises made in the Introduction had been accomplished. A medical dictionary had been incorporated with the *Encyclopaedia Medica*, and a supplementary volume was then being prepared, which is now before us. It has no preface, but it was intended to be a trustworthy guide to the really important additions which the past five years have given to our means of combating disease, deformity and death. It is arranged in dictionary form with many cross references. We can only pick out one or two topics for comment. Under the heading Tuberculosis we find that the work of the tuberculosis dispensary is being well recognised as the link between the Public Health Department and the various philanthropic agencies which are concerned in tuberculosis. Treatment by tuberculin receives a lengthy and complete notice, concluding as follows : " The fact that it has now overcome the prejudice which its use excited in the early nineties is perhaps the best proof that it is really a valuable remedy."

Under the heading Cerebro-spinal Meningitis we find a record of recent investigations of this comparatively new epidemic. All observers have confirmed the specificity of the diplococcus intracellularis meningitidis of Weichselbaum, which is easily found in the fluid withdrawn by lumbar puncture. Another noteworthy

fact is that the spinal fluid always has a low opsonic and agglutinative power, in striking contrast with the high opsonic and agglutinative power which the blood serum develops. This "positive reaction" of the blood serum is so constant after the fifth day as to serve as a reliable diagnostic test. Much information is given as to the mode of infection, channel of entry (naso-pharynx), and spread of the disease, and the relation of epidemic to posterior basic meningitis is fully considered. The serum treatment appears to promise much, but whatever serum be used it must be injected into the spinal canal.

The article on Immunity, with a clear exposition of the theories of Ehrlich and Metchnikoff, is very complete. The account of Anaphylaxis shows the importance of its clinical recognition, whilst the diagnostic significance of the opsonic index and the various diagnostic serum tests both for tuberculosis and syphilis are well described.

Many useful illustrations and a full index conclude this well-printed work.

The New Physiology in Surgical and General Practice. By A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S. Pp. vii., 201. Bristol: John Wright & Sons Ltd. 1911.

The author of this book is at once a surgeon and a physiologist. This dual capacity has permitted him to ascertain that the physiologist knows little of the triumphs of modern surgery, and that the surgeon is too busy to keep abreast with the advances of the "new physiology." Hence this successful and useful compilation. Our chief criticism is upon its brevity. There are many other subjects which might have been included, while an account—in simple language—of recent work in the domain of physical and chemical physiology would have been useful.

We have termed it a compilation, but this is not strictly true, for Dr. Rendle Short has included his recently-published work upon the action of cutaneous anæsthetics and some observations made by Dr. R. E. Thomas upon nutrient enemata.

The subjects discussed include the thyroid and parathyroid glands; the pituitary gland; studies in digestion and absorption; blood pressure; hemorrhagic diathesis; uric acid and other urinary deposits; acidosis and diabetes; chloroform poisoning; nerve injuries; spinal cord and cerebral localisation.

The text is easy to read, although a trifle "idiomatic" in places, and the index is well arranged and sufficiently full.

We welcome this book because of its practical aims and its innate usefulness in daily practice. It ought to be read by every practitioner. There is much in it also that stimulates

thought and inspires inquiry. Whether the author is justified in his many suggestions time alone can tell.

At all events, he must have the credit of writing an intelligent review upon recent physiology and its possible practical applications.

The chapters on cerebral localisation and nerve injuries will be found most useful for purposes of reference.

On Diseases of the Lungs and Pleuræ, including Tuberculosis and Mediastinal Growths. By Sir R. Douglas Powell, Bart., K.C.V.O., M.D., and P. Horton-Smith Hartley, M.V.O., M.A., M.D. Fifth Edition. Pp. xxviii., 712. London: H. K. Lewis. 1911.

The fifth edition of this most useful work contains many changes, the text having been largely rewritten, many new illustrations being added and the references brought up to date. The book is a model of clear, concise and helpful teaching. During the eighteen years that have elapsed since the publication of the fourth edition there have been great changes in medical opinion with regard to the ætiology and treatment of pulmonary tuberculosis, and the authors have devoted much space to the consideration of these points. Recently the results of the sanatorium treatment of phthisis have been somewhat adversely criticised, and there has been a reaction in favour of the tuberculin treatment. The medical man seeking information on these complex questions cannot do better than read the section devoted to the result of sanatorium treatment and the chapter on the specific treatment of pulmonary tuberculosis. The matter is summed up thoroughly and impartially, and in view of approaching legislation providing for State sanatoria, it should be carefully studied by all members of the profession.

A Manual of Fevers. By Claude Buchanan Ker, M.D. Pp. xiii, 314. London: Oxford Medical Publications. 1911.

This manual, written by an expert on infectious diseases as they are seen in Edinburgh, is intended for the use of students who propose to take out the statutory course of fevers at an isolation hospital. It cannot fail also to be of use to its owner when afterwards engaged in the work of general practice. The diseases to be treated are due to living organisms, and are approached from this point of view. Several of them are known to be

bacteria, some are probably protozoa, some have yet to be discovered. The elements of infection and immunity are described, and fever is defined as "a response in metabolism to the invasion of micro-organisms and a toxic disturbance of the regulation of temperature." Now that the phenomena of infection are so well understood, we think that the useless and mysterious word "Fomites" might well drop out of the English language. The author should be encouraged in his endeavour to belittle the disease rubella, of which the infection is short-lived, and is destroyed by ordinary domestic cleaning. He holds that although we are occasionally confronted with rashes which defy classification, there is no sufficient ground for the establishment of the "fourth disease" of Clement Dukes.

Disease in Bone and its Detection by the X-rays. By EDWARD H. SHENTON. Pp. xii, 72. London: Macmillan & Co. Limited. 1911.

It is not often that a book like this small monograph is met with, which is a plain, straightforward account of the author's own observations and the deductions that he draws therefrom. Consequently its short seventy odd pages, absolutely free from padding of all kinds, are of more value than many volumes of much greater size, and are full of useful suggestions to the radiographer and to the surgeon who relies on the use of the X-rays to help him towards a diagnosis.

The object which the author sets before him is "to record facts which radiographic experience makes him regard as fundamental in diagnosis," "facts which are not generally known, or surgeons would make more use of the X-rays, and not merely relegate them to the detection of coarse and obvious lesions."

The point on which the author lays the greatest stress is the difference in density in bone tissue in different diseases, and he lays down as a law that "generally speaking acute bone disease is made evident by increased transparency, and chronic disease by increase of opacity." This is well shown in radiograms of old cases of necrosis.

Again, if the outlines of a joint are blurred and indistinct in the radiogram, it is pathognomonic of tubercular disease, the pus and effused fluid in the joint in early cases, and the debris of bone tissue in addition in more advanced cases, effectually obscuring the outlines of the joint surfaces.

The consideration of syphilitic bone disease is purposely omitted, as the author's notes on the subject are not "ripe for publication." Further communications on the density of bone tissue in many chronic diseases, including alcoholism, are

promised at a later date, which communications we shall look forward to reading with the greatest pleasure.

The book is very nicely got up, and the radiograms which illustrate the text are most excellently reproduced. This short work is to be cordially recommended to all radiographers and to others interested in the subject as one of the most valuable additions to X-ray literature which has appeared for a long time.

Diseases of the Nose and Throat. By ST. CLAIR THOMSON, M.D., F.R.C.P., F.R.C.S. Pp. xvi, 791. London: Cassell and Co. 1911.

Rhino-laryngology has become a large territory, and any text-book which covers the whole ground and aims at a clear enunciation of the general principles and practice of this speciality must perforce reach the dimensions of a goodly-sized volume.

The work is divided into eleven parts, Part I dealing with embryology and physiology, methods of examination and general symptoms, treatment and the dangers of operations. We find that a very practical and clear description of bronchoscopy and œsophagoscopy is included in the section on methods of examination. A very useful topic is the cleansing of the nose, but we should have liked to see a warning note on the dangers that frequently attend the indiscriminate use of the nasal douche.

Part II consists of diseases of the nose. The special chapter on "taking cold, infectious catarrh" will be appreciated by all practitioners, but the space devoted to injuries to the nose and resulting deformities might with advantage have been more liberal.

Diseases of the accessory sinuses is treated in a masterly way, but would have been more complete with fuller reference to the different operations which are employed in the treatment of these affections.

In addition to a very large number of excellent illustrations in colour and in black and white, the author has employed diagrams to elucidate the text, and these are in many instances most helpful, such as that of a horizontal section of the pharynx to show the anatomical relations of the tonsils and the retro-pharyngeal glands.

In Part IV diseases of the naso-pharynx, diseases of the pharynx and tonsils, the larynx, trachea and œsophagus are followed by a section on tuberculosis and syphilis of the upper air passages and other infective diseases, and we consider that the author's plan of dealing simultaneously with these affections

in the naso-pharynx and larynx has much to recommend it. Sections on acute specific fevers in the nose and throat, and the nose and throat in some general affections, and one on some special operations, lead one to the final pages, in which the author gives a number of very useful formulæ.

Professor St. Clair Thomson's treatise on the nose and throat is clearly written, well printed and richly illustrated, and is certain to take a leading place as one of the most authoritative, complete and scientific that has ever appeared.

The Essentials of Histology. By E. A. SCHÄFER, M.D., Sc.D. Eighth Edition. Pp. xi, 571. London: Longmans, Green and Co. 1910.—This textbook has by sheer merit forced its way to the front, and is used in almost every medical school in English-speaking lands. The new edition has been more fully illustrated, and brought well up to date. The most interesting of the additions refer to the structure of the pituitary gland, and to various types of unipolar nerve-cells, here following the important researches of Ramon y Cajal.

Acute Intestinal Toxæmia in Infants. By RALPH VINCENT, M.D. London: Baillière, Tindall & Cox. 1911.—The whole burden of this address, delivered before the Glasgow Obstetrical and Gynæcological Society, is a plea for the use of unboiled milk in the feeding of infants. In the last chapter Dr. Vincent says, "The dirtier the milk, the more important is it that it should not be cooked." A series of experiments with kittens fed on boiled milk are devised to prove the author's contention that heated milk, owing to the destruction of the lactic acid forming organisms, offers a ready pabulum for the growth of pathogenic germs. We consider the views put forward are opposed to accepted teaching and contrary to experience, and if put into practice in their entirety would tend to an enormous increase in infant mortality.

A Study of the After-Results of Abdominal Operations on the Pelvic Organs. By ARTHUR E. GILES, M.D., B.Sc., F.R.C.S. Pp. viii., 251. London: Baillière, Tindall & Cox. 1910.—The conclusions which the author draws in his book are based on 1,000 consecutive cases, and the work is a reprint of a series of articles which appeared in the *Journal of Obstetrics and Gynæcology of the British Empire*. The first portion—about two-fifths—of the book deals with the answers to questions which may arise when we consider the after-results of operations, the rest of the volume consists of tables composed of a brief account of the individual cases upon which the writer's conclusions are founded. Many interesting points are discussed in the first part of the book, *e.g.* after removal of the appendages

of one side, what is the value of the remaining ovary from the point of view of subsequent pregnancy? How is the general health affected after hysterectomy for fibroids? and so forth. The mortality of many operations is so low that it is rather to the after-results that we must look in order to justify us in choosing or refusing surgical interference in many cases which might be classed as expedient rather than necessitous.

Sprains and Allied Injuries of Joints. By R. H. ANGLIN WHITELOCKE, M.D., M.C., F.R.C.S. Second Edition. Pp. xix, 280. London: Oxford Medical Publications. 1910.—This is a useful book, full of practical information, but its title is hardly comprehensive enough, for injuries of other structures than joints are considered in it. For instance, injuries of muscles and tendons occupy the space of two chapters. We rather object to the names "fracture-sprain" and "dislocation-sprain." In all fractures and dislocations there may or may not be extensive injury to the soft parts, but if there is a definite fracture or dislocation let it be called so. The cases described under these names are those in which the signs of fracture or dislocation might not be very evident until a skiagram is taken, but we do not think that therefore they differ in their nature from more evident fractures and dislocations. Perhaps the author has called them fracture-sprains to bring them within the scope of his book. We would suggest that it might be better simply to point out how they are to be distinguished from simple sprains. Of course, internal derangements of the knee-joint form an important subject for consideration. The illustrations which show the author's method of reducing displacement of the semilunar cartilages of the knee are most helpful in showing the method employed, and the book is, as a whole, really well illustrated, with quite useful photographs and skiagrams. The illustrations of myositis ossificans are particularly useful. No doubt practising in Oxford, where there is much athletic exercise amongst the undergraduates, he has experience of many forms of injury and thus has been able to write a really helpful book. Schlater's disease is fully considered, and some illustrative cases, with skiagrams, are given. It might be well to include an account of "snapping hip" in the next edition. It is a very puzzling condition, and is very apt to be considered traumatic in its origin by the patient, and of the nature of a partial dislocation even by the surgeon. We can commend this book to all those who have many of the slighter accidents to treat.

Handbook of the Surgery of the Kidneys. By W. BRUCE CLARKE. Pp. x, 199. London: Oxford Medical Publications. 1911.—This book is presented in a form suggesting a series of clinical lectures, recording chiefly the author's personal experience and views on the subject. It is intended, as is stated,

as a handbook for the busy practitioner, and as such deals somewhat superficially with the subject, but from this point of view contains numerous useful hints on the diagnosis, treatment and prognosis of surgical diseases of the kidney.

New and Non-official Remedies, 1911. Chicago: American Medical Association. 1911.—This is the 1911 edition of the annual *New and Nonofficial Remedies* issued by the Council on Pharmacy and Chemistry of the American Medical Association, and contains descriptions of all articles approved by the Council up to Dec. 31st, 1910. There are also descriptions of a number of unofficial non-proprietary articles which the Council deemed of value. In the arrangement and the scope of individual descriptions the present edition does not differ widely from the 1910 edition, but it contains about twenty-five additional pages, these being required to describe the articles accepted by the Council during 1910. Besides indicating to physicians the proprietary articles which the Council's examination has found to be honestly marketed, and containing accurate descriptions of these articles, all similar articles are arranged under group headings; thus the physician at a glance can learn that atoxyl and soamin are practically identical articles, and that arsacetin is a closely related body. Again, the several proprietary solutions of the blood-pressure-raising principle of the suprarenal gland are listed under a general title "epinephrin," and the manner in which the solutions differ from each other can be learned at a glance. In the same way, the medicinal foods are brought together and their relative value compared.

Golden Rules of Refraction. By ERNEST E. MADDOX, M.D., F.R.C.S.E. Third Edition. Pp. 96. Bristol: John Wright & Sons Ltd. (N.D.)—This book is entirely practical in its scope. It is not a "cram" book, but to those who have acquired some knowledge of refraction from the larger text-books and practice it will be found to be full of an extraordinary number of valuable hints, particularly on little practical points often not to be found in the larger works. It has reached a third edition, and so has evidently filled a want.

Hygiene and Public Health. By LOUIS C. PARKES, M.D., D.P.H., and HENRY R. KENWOOD, M.B., F.R.S. Edin., D.P.H. Fourth Edition. Pp. xi, 691. London: H. K. Lewis. 1911. —This well-known handbook, which had run through five editions before it came under the joint authorship of Drs. Parkes and Kenwood, maintains its position as a concise, readable and reliable guide to students of Public Health. In the fourth edition the pages number 691 compared with the 620 of the third edition, and the additional pages have been well utilised in incorporating recent discoveries of importance, not forgetting even "606." The subject of school hygiene is not neglected,

and the chapters on causation of the communicable and epizootic diseases have been revised. Possibly the introductory section on " The Contagia " might be recast so as to give the protozoa their due prominence in disease causation ; and it seems hardly necessary to-day to be so apologetic with regard to the " germ theory." Taken altogether, this is one of the most useful of students' handbooks.

Transactions of the Association of American Physicians. Vol. XXV. Philadelphia. 1910.—The usual high scientific and literary standard is amply maintained in the latest volume of these *Transactions*. Want of space prevents our referring to the various contributions in detail. Rotch and Smith's paper, however, on the determination of the developmental progress of adolescents by radiographic examination of the epiphyses of the wrists strikes us as full of promise in many directions. It involuntarily recalls the remarkable address of Sir James Paget on " Errors in the Chronometry of Life." We cannot help noticing that while our common language seems to tend to an ever-increasing separation in style and idiom in the mouths of the vulgar, American and English physicians remain still content with a language which is mutually intelligible.

How to Keep Fit. By A. T. SCHOFIELD, M.D., M.R.C.S. Pp. 79. London : William Rider & Son Ltd. 1910.—This little book belongs to a series called " Rider's Mind and Body Handbooks." It is addressed to the public, is written in a popular style, and contains general advice and maxims on hygiene, including paragraphs on smoking, tea-drinking, dress, fresh air, rest, feeding, and so forth. It is sensibly written, and may very well be placed in the hands of anyone who wants a little advice on such questions. It is full of platitudes, but these are often put in a forcible and convincing manner. There is a slight tendency to be dogmatic, but probably this is useful when talking to the ignorant. Sometimes a statement occurs one can hardly agree with, such as " no healthy child will eat or sleep too much." But most of the book is common-sense and correct. The author is at his best when denouncing the habit of continuous contemplation of one's ailments, and he strongly advises his readers to avoid introspection and self-analysis.

A Manual of Nursing. By MARGARET FRANCES DONAHOE. Pp. x, 489. London : D. Appleton & Company. 1910.—This book is more readable than many of the manuals on nursing. It has the advantage of not going too deeply into anatomical and physiological details. It is evenly balanced, and covers all the necessary ground. Massage and midwifery are not included, and there is no special chapter on private nursing.

The chapter on bandaging is too condensed, and might well have been omitted. The description of the various diseases are short and intelligible, without giving too much detail. It may be recommended to nurses to give them a very fair idea of what is expected of them.

Transactions of the College of Physicians of Philadelphia. Vol. XXXII. Philadelphia: Printed for the College. 1910.—The high standard which we have learnt to expect of these *Transactions* is fully maintained. The volume is full of good and varied reading. It is difficult to estimate the full value of researches in experimental medicine when the work is first accomplished, but we cannot but regard Pemberton and Sweet's paper on the "Induction of Pancreatic Activity by the Removal of the Adrenals" as a contribution which should command the attention of physicians no less than physiologists and pathologists. Among their conclusions one stands out prominently, namely the suggestion of a control over the pancreas by the adrenals in the absence of which the gland secretes more actively. "A Study of the Cammidge Reaction," by Swan and Gilbride, contributes to the increasing weight of evidence against the reliability of this reaction. Every surgeon will be interested in the symposium on Post-operative Psychoses and Insanities, opened by Dr. Weir Mitchell. There is an excellent series of papers on Epidemic Poliomyelitis, and some useful observations on the pathological changes in Tabes Dorsalis by Rhein.

Medical Revolution. By SYDNEY W. MACILWAINE, M.R.C.S., L.R.C.P. (retired). London: P. S. King & Son. 1911.—The book professes to be a plea for the national preservation of health based upon the natural interpretation of disease, and it is dedicated to "the intelligent, and puzzled, layman, to medical officers of health, and general practitioners, and to medical students, to whom belongs the future of our profession." The author, this superior person, appears to take an elevated position from which he criticises adversely everything which is. The whole field is beset with errors in nomenclature, pathology, diagnosis and illusory diagnosis, false relations of theory and practice, errors in the hospital, errors in medical organisation and education, errors in certification, and errors even in quackery and empiricism. The book itself abounds in inaccuracies, and is a good illustration of the author's contention that the ideal is difficult of attainment. We may well summarise it in the words "much cry and little wool."

Editorial Notes.

Medical Education and the Board of Education.

THE Government has published a Blue Book. Which after all is what Governments are for. And some Blue Books make very good reading, almost every taste being catered for — history, geography, agriculture, science and fiction—the taxpayer pays his money, and the reader may take his choice.

The Board of Education has made a fat book bound in blue about "Universities and University Colleges receiving Parliamentary Grants," wherein are many admirable facts and figures relating to the cost of University education and how it is met. The figures have a simple air of truth about them that deters us from any destructive criticism. We will leave them with the Baconian maxim that "a pleasing figure is a perpetual letter of encouragement," and pass on to the Preface.

Mr. Runciman, as President of the Board of Education, has figuratively blessed the book with an introduction from his own ministerial pen, and no doubt his words are too sacred for correction by any of the officials in his department. So he has given expression to some very original research into the history of medical education. It is his ambition to see medical education directed and controlled by the Board of Education. The unparalleled success of the Board in the management of elementary education in this country will inevitably secure a rapturous acceptance for the fatherly guidance of the Board in medical education.

But we do not like this particular Danäid with his own particular contribution to the history of the evolution of English medical schools. He almost laments the fact that five general medical schools still exist so blind as to forego the advantages of a Government Grant coupled with Government supervision. Parenthetically, there rises to the mind a recollection

of the University of Oxford perversely informing the General Medical Council some few years since that the suggestions of the Council for improving the medical course at Oxford were declined with thanks, yet Oxford still lives.

The Blue Book confesses to a difficulty in dealing with the London hospitals, for there the medical school, unlike those of the provinces, has frequently been an offshoot of the hospital. Apparently there is a feeling that where a hospital gave rise to its own medical school the Government will find some difficulty in interfering to the full extent of its desires with the management of the medical school. We anticipate that these forebodings will prove true.

It is in the highest degree likely that the London hospitals will continue to appoint to their staff physicians and surgeons whose attainments qualify them to practise to the best advantage among the sick who claim their help, and from these practisers of the art students will continue best to learn their art.

We are apprehensive lest Board of Education control of medical education should mean the intruding of mere teachers for masters in the domain of medicine and surgery. It is the masters of medicine in the old sense of whom medicine to-day stands most in need. And our observations of the hand of the Board as evidenced by its system of inspection in other branches of learning do not encourage the idea that the ways of Hippocrates and Sydenham, or the manly intellectual culture, the "fine confused feeding" of Arbuthnot, Heberden and Gregory would lead any other than an exiguous existence in medical education. But the President of the Board of Education makes a reluctant admission that medical schools originating in hospitals do not stand quite on all fours with medical schools which, like Topsy, "just growed," or were born of some pre-existing University or College. The meaning of the remark is cryptic, but there is an inaccuracy in his assumption that the majority of provincial medical schools do not trace their origin to some hospital.

Bristol, at any rate, is in precisely the same position as most

of the London hospitals, and the medical school in Bristol antedates many of those in London, but with this difference, that from the Royal Infirmary and General Hospital sprang the Bristol Medical School which brought into being a University College, and finally in the fulness of time, and by the generosity of large-hearted citizens, a University crowned and cemented the whole edifice.

This the Board of Education will do well to bear in mind, if in its wisdom it decides to direct the whole of the medical education in the United Kingdom. It is by no means certain that the Government will order these affairs any better than the pre-existing organisations. A Government Board may even fail to rival the achievements of Hunter, Baillie, Syme and Paget, to name but a few of those who have lent lustre to the honourable roll of masters in medicine.

In their efforts to improve by inspection the teaching ot medicine they will do well to remember Latham's advice not to " rebuke the experience of all past times and dictate to the experience of all future," lest in their praiseworthy desire to mould the teaching of medicine to a Government ideal they discover the truth of Bernard Shaw's gibe : " He who can does, he who cannot—teaches ! "

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The Compulsory Notification of Pulmonary Tuberculosis.

THE following notes on this important subject have been supplied by Dr. D. S. Davies, Medical Officer of Health :—

The Public Health (Tuberculosis) Regulations, 1911, enforcing the compulsory notification of Pulmonary Tuberculosis by all Medical Practitioners and School Medical Inspectors, do not come as a surprise, but rather as the necessary and promised complement to the compulsory Regulations of 1908 and 1911 in regard to Poor Law and Hospital cases.

Ten years ago any attempt at compulsory notification of Pulmonary Tuberculosis in England would have met with considerable opposition and resentment, for it was rightly felt

that the disabilities which necessarily apply tc persons suffering from the ordinary eruptive fevers would involve intolerable hardships to many phthisical patients.

The experience gained, however, with a system of compulsory notification since 1903, under a private Act in Sheffield, under similar powers in Bolton, Burnley, and Oldham, and under a voluntary system in other towns, including Bristol, has shown that, in place of acting to the detriment of the patient, there is abundant evidence, to use the words of the Chief Medical Officer of the Local Government Board, "of notification bringing within reach of the patient help that had previously been unobtainable." Special care is also taken in all the recent Regulations to safeguard the interests of the patient, and to ensure the privacy of all notifications made thereunder.

The Regulations come into operation on the 1st January, 1912, and do not supersede but supplement, and in some respects extend, the Poor Law and Hospital Regulations. For example, Article IX. (1) is wider than the corresponding Article in previous Regulations, in so far as it includes a power to provide medical assistance.

The powers and duties of Councils are pointed out in the Memorandum accompanying the Order to include :—

> The provision of Sanatoria or the power to contract for their use. The provision of Dispensaries or Out-patient Hospitals, or the power to contract for their use. The power to supply, on the advice of the Medical Officer of Health, such medical assistance, facilities and articles as may be necessary for detecting Pulmonary Tuberculosis, for preventing the spread of infection, and for removing conditions favourable to infection. The power to appoint any necessary additional officers.

Local Authorities are also advised to carefully take account of local agencies, and to make full use of their powers of preventing or removing conditions likely to prove injurious to health.

Article IV. (1) relieves a Medical Practitioner of the duty of

notifying a case which has to his knowledge already been notified, and it is pointed out in the Memorandum that a physician called in for consultation would not, in general, be responsible for notification, and that notification would seldom be required from the Medical Officer of a Sanatorium or Convalescent Home for Consumptives. The Regulations do not apply (Article X.) to Medical Officers of a Poor Law Institution, or District Medical Officers, to Medical Officers of Hospitals, Prisons, Certified Reformatory Schools or Institutions for Lunatics, or to Medical Examiners of candidates for some office or employment, of passengers and crews of emigrant ships, or on behalf of an insurance company of a person proposing to insure his life at the risk of that company. Inmates of Crown buildings or ships are also exempted from the operation of the Regulations.

Notification is to be made by Medical Practitioners or School Medical Officers in every case coming within the Order within forty-eight hours after first becoming aware that a patient or a child attending a Public Elementary School is suffering from Pulmonary Tuberculosis. The fee for each notification is 2s. 6d., which covers all expenses including the cost of transmission, except that no fee shall be payable to a School Medical Inspector.

The Regulations are made under Section 130, Public Health Act, 1875, as amended by the Public Health Act, 1896, and carry the usual penalty of £50.

Medical Practitioners may find, under the present somewhat strained relations with another Government Department, some balm to their parched lips in the following official pronouncement:—

> "The (Local Government) Board feel sure that the duty which is imposed will be loyally undertaken by a profession which has already contributed so greatly to the furtherance of social efficiency, and which has responded so readily to the demands which have been made from time to time upon its special knowledge and experience."

Bristol Medical Library.

THE history of the Medical Library (page 335) written by Mr. L. M. Griffiths gives an interesting account of the continuous struggles of the profession in Bristol to get and keep a collection of books and magazines which might serve the needs of the medical men in Bristol and the neighbourhood. The story is one of long and active efforts by succeeding generations of men who have appreciated the value of reading. The continuity and persistence of their labours is remarkable; so too has been the success with which difficulties have been overcome. Frequent changes of premises and insecurity of tenure have interfered little with the steady growth of the Medical Library, but at every crisis that has arisen there have not been wanting men who, all dedicated to closeness and the bettering of their minds, pursued their self-appointed task with zeal. Thus each change has been but a further stage of growth, the resources of the Library in funds and books have multiplied and are still increasing. It is the great and widely-prized possession not of a few mere bookworms, but of a large circle of busy doctors active in their practice and eager to avail themselves of the knowledge of other brains and other countries than their own. It is one of the greatest advantages that can be thought of, as Dr. Dell[1] wrote long ago, to "spend some part of the day in learning or study, and the other part of the day in some lawful calling; or one day in study, and another in business, as necessity or occasion shall require."

Mr. Griffiths's paper describes how rapidly the Medical Library grew in the first ten years after it came into the hands of the Medico-Chirurgical Society, from 1879 books and 79 periodicals in 1891 to 9371 books and 189 periodicals in 1901.

Meanwhile the advantages derived from the united endeavours of University College and the Society were immense. The profit to the Society cannot be estimated by the mere size

[1] "The Right Reformation of Learning, Schools, and Universities," by William Dell, in his *Select Works*. London: John Kendall. 1673.

of the Library to which its members had access. The old Medical Library became the active centre of medical life in Bristol. It was regarded as the head-quarters not only of the Medical School, but also of the Society and of the British Medical Association. It has played no small part in establishing that unity in the medical profession which at the present juncture has been made manifest. To our librarians, Mr. L. M. Griffiths (1890–1902) and Mr. C. K. Rudge, who now occupies the post, our grateful thanks are due for their honorary services and valuable work. There is one important development to which Mr. Griffiths's paper does not refer, namely the establishment of a lending department in 1908. Previously members could only consult the books in the Library, but in 1908 Mr. Rudge and the Library Committee drew up a scheme by which volumes might be borrowed by members. This was done, moreover, without any increase of subscription or additional charge, for the extra cost has been more than compensated by the increased membership of the Society which resulted from this useful privilege.

But this year another critical change has taken place, a change unwelcome perhaps to many of us.

The University authorities, sensible of the need for adequate administrative premises, informed the Society that the Medical Library must be moved to make room for a Council Chamber, and gave notice that the agreement with the Society should terminate in 1912. It was within the rights of the Society to cling to the old premises until the expiration of the agreement, but there were other considerations which called for a more generous acquiescence.

The needs of the Medical Department of the University were well known to the Society, proper educational equipment could not be provided in the old buildings, and the Council of the University were able to offer laboratory and other accommodation for the Medical School in the new buildings such as could not have been contemplated in the old. So, not without many regrets for past associations, it was decided to quit the building that had served so well for nearly twenty years in order that

the students of to-day might benefit at once by increased accommodation and modern equipment.

The Medical Library now finds itself settling down into the east wing of the old Blind Asylum, where, although there is no single room comparable to the fine chamber it has left, there is ample space for the housing of its books and magazines.

We may look forward to a fresh impulse to the growth of the Library, for in future the contributions of the University to the University section of the Library will be on a scale far beyond the best efforts of University College. Presently the members of the Society will find themselves in joint possession of a Library undreamt of by those who in 1832 made the small beginning in Orchard Street.

We miss just now the large room where formerly the meetings were held, but the University are sparing no pains to place at the disposal of the Society an equally appropriate meeting-place. In the meantime we may comfort ourselves in our discomfort with the adage that " Some falls are means the happier to arise."

Notes on Preparations for the Sick.

Adalin, a new sedative and hypnotic—Tablets, gr. v.—THE BAYER CO., London.—Adalin, chemically bromo-di-ethyl-acetyl-urea, is a white powder, almost tasteless and odourless, nearly insoluble in cold water, soluble in hot water, the solution being of neutral reaction.

According to the dosage, adalin acts as a sedative or a hypnotic. Although it consists partly of bromine, its action is not due to the halogen content, as the liberation of the latter is too slow and too incomplete for ionisation. The action must be attributed to the whole molecule.

Many prescribers are unwilling to employ powerful hypnotics, and there are many cases in which it is inadvisable or unnecessary to employ them, although sleep is indispensable. For example, a patient may be unable to go to sleep on account of some external exciting cause producing a nervous condition, although once sleep has come it will continue; and another patient may waken soon after falling asleep, and be unable to

go to sleep again. In such conditions adalin is of especial service, as its action may be described as that of diminishing abnormally excited conditions of the brain and spinal cord, and thus paving the way for physiological sleep.

We have found that adalin produces no unpleasant after-effects, and patients awake refreshed and invigorated; they do not feel drowsy nor do they have any headache or sense of fatigue. It may safely be taken daily for a lengthy period.

As a sedative, adalin is employed in many directions, viz. in chorea, exophthalmic goitre, neuroses of the heart, with tachycardia, neurasthenia and hysteria.

In dental practice adalin has been especially recommended. A dose taken before operation makes the ordeal more tolerable to a nervous patient, and another given afterwards has a soothing effect. When local or general anæsthesia is resorted to, it is found that less of the anæsthetising agent is required if adalin is previously given.

Ferro-Sajodin.—THE BAYER CO., London.—The organic Iodide Sajodin is the calcium salt of mono-iodo-behenic acid, a tasteless and odourless powder containing 24.5 per cent. of Iodin and 4.1 per cent. of calcium.

The compound with iron is in the tablet form. One or more tablets may be taken three times a day after meals, chewed or crushed before taking. It forms a convenient method of administration of the last two drugs, iodine and iron, in cases of anæmia, arterio-sclerosis, and other conditions, when iodide and iron treatment is necessary.

The powder is insoluble in water, and it contains 5.6 per cent. of iron in combination with 24.5 per cent. of iodine. It is not likely to produce the symptoms of iodism, and the effect of the iodine continues for several days. The tablets are pleasantly flavoured with chocolate, and are readily taken by children.

Palatinoid—Malt Diastase.—OPPENHEIMER, SON & CO., London.—Each palatinoid contains the equivalent of one teaspoonful of the most active extract of malt.

Gynoval.—THE BAYER CO., London.—This nerve sedative is put up in four-grain capsules, which may be taken one hour after meals three times a day.

It is chemically the iso-borneol-ester of iso-valerianic acid, derived from valerian. It is a colourless liquid, insoluble in water, but soluble in alcohol, with a much less pronounced smell and taste than the ordinary valerian preparations.

It is indicated in conditions such as hysteria, dysmenorrhœa,

and other conditions associated with pregnancy and the climateric.

In cases of nervous insomnia two or three capsules taken at bedtime give good results.

Iodex (IODine EXternally).—MENLEY & JAMES, London.—Is an ointment containing resublimed iodine in a neutral base to the extent of 5 per cent. therapeutically free. It is non-irritating and non-staining, for although intensely black, the colour rapidly disappears when iodex is rubbed into the skin. Being neutral, it may be combined with various other drugs, such as methyl-salicylat, menthol, aristol, thymol, etc., so that it has a large range of utility in cases where iodine medication is desired.

Rapid penetration and marked activity are shown by the fact that iodine is readily traceable in the saliva and urine within an hour or two after application. Parasitic infections of the skin respond very readily to treatment by iodex applied three times daily.

Formalets—Throat Tablets.—E. S. L. & W. LTD., London and Liverpool.—These tablets, containing formaldehyde, are of the usual kind, intended to serve as an antiseptic germicide in all septic conditions of the mouth and throat. They should be used frequently and slowly dissolved in the mouth.

Palol.—PARKE, DAVIS & Co., London.—This tonic nutrient and restorative is an agreeably flavoured dark red fluid, one ounce of which is said to contain a cod liver oil extract, called Gaduol, from 250 minims of the oil, combined with malt extract and the glycerophosphates of calcium and sodium. Its uses are obvious, and it should give good results.

Valerobromine, Legrand.—DARRASSE FRÈRES, Paris.—This combination, bromo-valerianate of soda, is prepared in liquid form and in capsules.

The liquid is a concentrated solution of one-tenth part of the crystallised drug in an aromatic and sweetened diluent. Two to six teaspoonfuls may be given daily, or four to twelve capsules, according to the case. It should be a useful addition to our resources for anti-nervous medication.

Huxley's Glycero-phosphates, with formates. — ANGLO-AMERICAN PHARM. CO., Croydon.—The formates are believed to be muscle tonics, stimulating the muscular walls of the heart, intestines, etc. This combination, either with or without

strychnine, should have a large range of utility as a muscular tonic in all depressed conditions.

Tabloids—Xaxa and Caffeine.—BURROUGHS, WELLCOME & Co., London.—Each tabloid contains :—

Xaxa, gr. iv.
Caffeine, gr. i.

The combination should be useful in many rheumatic conditions associated with headache.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in September.

November 30th, 1911.

J. Paul Bush, C.M.G.	.. ..	4 volumes.
J. A. Nixon, M.B. (1)	.. ..	1 ,,
R. Shingleton Smith, M.D. (2)	.. .. ..	1 ,,
L. M. Griffiths (3)	.. ..	1 ,,
F. Wallis Stoddart	.. ..	12 ,,

Framed pictures have been received from Dr. J. Michell Clarke and Mr. L. M. Griffiths, and pamphlets have been presented by Mr. Paul Bush and Mr. L. M. Griffiths.

EIGHTY-SECOND LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

Alderson, W. E. .. *Dental Anæsthetics* 1911
Allbutt and H. D. Rolleston, Sir C. [Eds.] *A System of Medicine.* Vol. IX 1911
Backer, F. de .. *Lourdes et les Médecins* .. .. (3) 1905
Ballantyne, J. W. [Ed.] *Quinquennium of Medicine and Surgery* (1906–10) 1911
Bidwell, L. A. .. *Minor Surgery* 1911
Cheyne, Sir W. W. *Tuberculous Diseases of Bones and Joints* 2nd Ed. 1911
Colyer, J. F. .. .. *Dental Surgery and Pathology* 1910
Ely, L. W. .. .. *Joint Tuberculosis* 1911

Fenwick, W. S. .. *Dyspepsia* 1910
Firth, R. H. .. .. *Military Hygiene* 1908
Fordyce, A. D. .. *The Care of Infants and Young Children* .. 1911
Groves, E. W. H. .. *A Synopsis of Surgery* .. .. .. 3rd Ed. 1911
H., A. A. .. .. *Where the World Ends* .. .. (2) 1911
Hertz, A. F. .. .. *The Sensibility of the Alimentary Canal* .. 1911
Hewer, Mrs. J. L. .. *Our Baby* .. .. 13th Ed. 1911
Jefferys and J. L. Maxwell, W. H. *Diseases of China* 1910
Ker, C. B. .. .. *A Manual of Fevers* 1911
Lockwood, C. B. .. *Clinical Surgery* .. .. 2nd Ed. [1911]
Lyle, H. W. .. .. *Manual of Physiology* 1911
Maxwell, W. H. Jefferys and J. L. *Diseases of China* 1910
Mennell, J. B. .. *Treatment of Fractures by Mobilisation and Massage* 1911
Mercier, C. A. .. *Conduct and its Disorders* 1911
Miles, A. Thomson and A. *Manual of Surgery.* Vol. I .. 4th Ed. 1911
Milligan and W. Wingrave, W. *Diseases of the Ear* 1911
Mortimer, J. E. .. *Anæsthesia and Algesia* 1911
Rolleston, Sir C. Allbutt and H. D. *A System of Medicine.* Vol. IX 1911
Short, A. R. .. .. *The New Physiology in Surgical and General Practice* 1911
Swanzy and L. Werner, Sir H. R. *Diseases of the Eye* 10th Ed. 1912
Thomson and A. Miles, A. *Manual of Surgery.* Vol. I 4th Ed. 1911
Thomson, St. C. .. *Diseases of the Nose and Throat* 1911
Tuckett, I. L. .. .. *The Evidence for the Supernatural* 1911
Werner, Sir H. R. Swanzy and L. *Diseases of the Eye* .. 10th Ed. 1912
Wingrave, W. Milligan and W. *Diseases of the Ear* 1911
Wolff-Eisner, A. *Clinical Immunity and Sero-Diagnosis* (Trans. by R. W. Matson) 1911

TRANSACTIONS, REPORTS, JOURNALS, &c.

American Journal of the Medical Sciences, The .. .. Vol. CXLI 1911
American Journal of Physiologic Therapeutics .. .. Vol. I 1910–11
Birmingham Medical Review, The .. .. N.S., Vols. XV, XVI 1910
British Medical Journal, The .. .. Vol. I for 1911
Edinburgh Medical Journal .. .. N.S., Vol. VI 1911
Edinburgh Obstetrical Society's Transactions .. .. Vol. XXXVI 1911
Gazette des Hôpitaux 1910
Glasgow Medical Journal, The .. .. Vol. LXXV 1911
Hospital, The .. .. Vol. XLIX 1911
Journal of Experimental Medicine, The .. .. .. Vol. XIII 1911
Lancet, The .. .. Vol. I for 1911
Northumberland and Durham Medical Journal, The 1909–10
Ophthalmological Society's Transactions .. .. .. Vol. XXX 1910
Practitioner, The .. .. Vol. LXXXVI 1911
Progressive Medicine .. .. Vol. II 1911
Universities in Great Britain, Reports from, for 1909–10 .. (1) 1911

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

Annual Meeting, October 11th, 1911.

After a vote of thanks to the retiring President, Dr. Bertram M. H. Rogers, had been passed, Mr. C. A. Morton took the chair, and gave an introductory address (*see* p. 289). Later a cordial vote of thinks was given to Mr. Morton for his able and interesting address.

The Honorary Secretary and Editorial Secretary, Dr. J. A. Nixon, read the following annual report :—

There is a balance in hand on the General Account of £114 19s. 11d. From members' subscriptions the receipts were £182 14s. 0d. The balance from the previous year was £126 19s. 3d. The expenses amounted to £201 6s. 9d.

The *Journal* Account showed a deficit on the year 1910 of £17. This was met by a special grant from the Society's funds.

During the year one honorary member and twelve ordinary members were elected and thirteen resigned. We have to deplore the death of two members, Dr. John Beddoe, F.R.S., for many years an honorary member, and Dr. E. Blacker. On October 1st, 1911, there were 169 members.

The Hon. Librarian, Mr. C. K. Rudge, then read the following report :—

The Library of the Bristol Medico-Chirurgical Society now contains 11,619 volumes. During the year 231 volumes have been added. The Library is in regular receipt of 190 periodicals.

During the year 912 loans of books were made, as compared with 1,107 in the preceding year. The difference is accounted for by the borrowing of books being stopped during the removal. Fifty volumes had been obtained from Lewis's Library, the membership to which is found to be of great service to readers.

The Bristol Medical Library, to which members of the Society have access, now contains 21,929 volumes, made up in the following manner :—

BOOKS.	
Medico-Chirurgical Society	11,619
University of Bristol	8,547
Bristol Royal Infirmary	1,189
Bristol General Hospital	574
Total	21,929

CURRENT PERIODICALS.

Medico-Chirurgical Society	190
University of Bristol	59
Total	249

The following are the officers of the Society for the Session 1911–12: President—C. A. Morton, F.R.C.S. President-Elect—W. C. Swayne, M.D., B.S. Lond., M.D., Ch.B. Bristol. Committee (*ex officio*)—B. M. H. Rogers, B.A., M.D. Oxon. (retiring President); R. Shingleton Smith, M.D. Lond. (Editor of *Journal*); C. King Rudge, M.R.C.S. (Hon. Librarian); J. A. Nixon, B.A., M.B. Cantab. (Editorial Secretary). (*Elected*)—G. Munro Smith, M.R.C.S., and J. Michell Clarke, M.A., M.D. Cantab. (Ex-Presidents); P. Watson-Williams, M.D. Lond.; G. Parker, M.A., M.D. Cantab.; I. Walker Hall, M.D.Vict.; F. Lace, F.R.C.S.; J. Lacy Firth, M.D., M.S. Lond.; John Wallace, M.B., C.M., B.Sc. Edin. Honorary Secretary—J. A. Nixon, B.A., M.B. Cantab.

RECEIPT AND EXPENDITURE ACCOUNT OF THE BRISTOL MEDICO-CHIRURGICAL SOCIETY, SESSION 1910-11.

	£	s.	d.		£	s.	d.
Balance in hand, Oct. 1st, 1910.. ..	126	19	3	Honorarium	10	0	0
Members' Subscriptions	182	14	0	Expenses of Capt. Mackie's Address ..	7	15	1
Interest on Deposit Account	1	10	2	Lantern at Meetings ..	1	11	6
Donation from Capt. Mackie, I.M.S. ..	4	4	0	Library Grant	50	0	0
Sundry Amounts.. ..	0	19	3	Rent, etc.	57	6	0
				Porter	1	2	0
				Printing	3	9	0
				Postage	4	1	2
				Editorial Secretary— Members' Subscriptions	46	5	0
				Special Grant to *Journal*	17	0	0
				Hon. Sec.'s Petty Cash	2	17	0
				Balance in Bank	114	19	11
	£316	6	8		£316	6	8

November 8th, 1911.

Mr. C. A. MORTON, President, in the Chair.

On the proposition of the President, seconded by Mr. Munro Smith, the following gentlemen were elected honorary members of the Society: R. Shingleton Smith, M.D., B.Sc., F.R.C.P., Consulting Physician to the Bristol Royal Infirmary, Emeritus Professor of Medicine in the late University College, Bristol;

N. C. Dobson, F.R.C.S., Consulting Surgeon to the Bristol General Hospital, Emeritus Professor of Surgery in the late University College, Bristol; L. M. Griffiths, M.R.C.S. Eng., L.R.C.P. Edin., formerly Honorary Librarian to the Bristol Medical Library.

Dr. J. R. CHARLES showed a boy with **Amyotonia congenita.** Signs of the affection had been present at birth. The birth had been normal. The muscles of the limbs and to a less degree those of the trunk were remarkably atonic; partial dislocations of the wrists and knees were permitted; the feet were quite flat. The patient sat with kyphotic spinal curvature, though the spine could be easily straightened. The knee-jerks were good, the plantar reflexes flexor; the wrist and biceps jerk had only been obtained once or twice. There was no reaction of degeneration, but sluggish response to the interrupted current. The boy's intelligence was good.—Dr. FORTESCUE-BRICKDALE discussed the differences between this affection and amyotrophic affections. In the latter the trunk muscles became more affected, interfering with respiration, and the prognosis was worse. The speaker thought the cases of amyotonia in which spinal cord changes had been described were not true examples of the affection.—Dr. CAREY COOMBS alluded to an example of the disease he had shown in 1905, and described in the *British Medical Journal*. In his case the face had been affected in the late stages. It was conceivable that some of the spinal changes described as occurring might be secondary to the muscular atrophy.—Dr. CHARLES, in replying, referred to the fact that there might or might not be spinal cord changes following amputation of a limb. It was difficult to determine whether the spinal cord changes in amyotonia were primary or secondary.

Mr. A. L. FLEMMING read notes on the following cases:—(1) **Hypernephroma of the liver** (patient shown). The patient, a young woman, began to fail in health four years ago. She became feeble, with headaches, lassitude and amenorrhœa. The skin became bronzed, and there was marked growth of hair on the cheeks, chin and limbs, but loss of hair on the scalp. All these changes had disappeared since the removal last July of a hypernephroma of the liver. At the date of operation the patient was suffering from jaundice and attacks of colic, and the abdomen was explored by Mr. Carwardine. Two nodules were found on the liver in such a position that they pressed upon the common bile-duct. They had a diameter of about a quarter of an inch. The structure after removal was found to be that of hypernephroma. The skin discolouration had nearly disappeared since; but the patient was losing weight and weakness was increasing. (2) **Tumour of the cheek treated**

by radium (patient shown). The patient had had a small tumour in the inside of the right cheek since seven years of age. Between June and October, 1910, it doubled in size, and was therefore removed by Mr. Walters, and found to be an endothelioma. After a month the cheek at the seat of operation became painful, and a tumour formed again, and rapidly, within a few days, reached a diameter of 1½ to 2 inches. An exploratory incision, which evacuated a drop or two of pus, did no good, and the tumour continued to enlarge. A section of a portion of mucous membrane showed endotheliomatous growth. In a few days the whole cheek became involved, and treatment by radium was decided upon. Four applications were made by Dr. Finzi, and the tumour disappeared, leaving a supple scar. (3) **Filaria loa.** An adult filaria loa removed from beneath the conjunctiva of a patient was shown. The patient, who had been previously treated for the disease, and was known to still have the parasite in the blood, was asked to come to see the speaker immediately if any eye symptoms developed. He appeared one morning at seven, and the worm was seen moving beneath the conjunctiva. It was removed with Dr. Stack's help.—Mr. WALTERS commented upon the tumour of the cheek. When the incision was made to explore the recurrent swelling the tissues cut like carcinoma. Radium first localised the swelling remarkably and then caused its disappearance.—Dr. JAMES SWAIN, who had also seen the case, commented upon the remarkable effects of the radium. He pointed out that endotheliomata varied much in malignancy, and he thought they were probably more amenable to radium than carcinomatous tumours; also he considered recurrent tumours were more amenable than primary ones. He described a case of malignant glandular tumour of the neck which had recurred after operation and been treated with radium by Dr. Wickham. The tumour disappeared for a time, but ultimately recurred and caused death.—Dr. J. O. SYMES alluded to a case of rodent ulcer successfully treated by radium.—Dr. WATSON-WILLIAMS described a case of œsophageal carcinoma in which great relief of dysphagia was twice produced by radium application by Dr. Finzi, but ultimately the symptoms returned and further treatment became impossible.

Dr. WATSON WILLIAMS read a note on **Cardio-vascular nasal reflex influences.** A series of lantern slides displaying a section of the medulla of a new-born mouse, by Cajal, and various diagrams showed the connections between the substantia gelatinosa and the vagal efferent nucleus, thus explaining the influence of the sensory fifth nerve in the nose on the territory of the vagus. Further slides were shown to draw attention to experimental proof of the influence of the olfactory and fifth nerves on the pulse.

Dr. S. V. STOCK, commenting on the paper, said he had noticed that separation of the mucous membrane from the nasal septum in the operation of sub-mucous resection caused a fall in blood-pressure. Removal of the bony crest at the base did not have this effect; also, if the operation was done under local anæsthesia with 20 per cent. cocaine, there was not a fall in blood-pressure.—Dr. CAREY COOMBS alluded to a case of tachycardia, in which the attacks were ushered in with nasal symptoms like those of hay-asthma.

Dr. NEWMAN NEILD read clinical notes on **Tea-poisoning.** (See page 312.)

J. LACY FIRTH.
J. A. NIXON, *Hon. Sec.*

Obituary Notice.

WILLIAM RICHARD HUGGARD, M.D., LL.D.

The Davos Courier of Oct. 13th and 20th, 1911, gives us full particulars of the life and death of His Majesty's Consul at Davos, a physician of rare and refined personality and character, who for twenty-five years lived and practised at Davos, and now on Oct. 12th was laid to rest in the cemetery at Davos-Platz. His reputation was great and widespread; in the medical world he was well known everywhere. He contributed papers to many Congresses, and wrote many pamphlets on medical subjects. His principal work was the *Handbook of Climatic Treatment*, a book containing much knowledge and research, and to a great extent his facts were verified by personal observation. His capacity for work was great, but although a great reader he wrote comparatively little. "He was a genuine man of feeling, highly sensitive and sympathetic, friendly, helpful, and generous, with a very human—aye, with a truly Irish heart." He will long be missed at Davos, and by his numerous friends scattered throughout the world.

PUBLICATIONS.

"The Metric System in Pharmacy," *Lancet*, 1902, ii. 1078.

"Bromide of Ethyl as a General Anæsthetic and as a Preliminary to Ether," *Ibid.*, 1903, ii. 745.

(With E. C. Morland) "The Action of Yeast in Tuberculosis and its Influence on the Opsonic Index," *Ibid.*, 1905, i. 1493.

"Pulmonary Atelectasis in Adults," *Brit. M. J.*, 1905, ii. 922.

A Handbook of Climatic Treatment, including Balneology. London, 1906. Macmillan. 552 pp. 8vo.

Davos as Health Resort. Introduction by W. R. Huggard. Davos, 1907. 320 pp., 27 pl. 8vo.

"The Influence of High Altitudes," *Practitioner*, 1908, lxxxi. 95.

"Classification of Cases in Pulmonary Tuberculosis," *Brit. M. J.*, 1909, ii. 1403.

Local Medical Notes.

University of Bristol.—The conferring of degrees took place on October 20th, when, amongst others, Honorary Degrees were conferred on Professor Alfred Marshall, Sir William Ramsay, K.C.B., Professor A. P. Chattock, and Professor Wertheimer. In the evening the dinner of the Association of Alumni took place.

The Medical School Dinner took place on November 21st, under the presidency of Mr. C. E. S. Flemming. The guest of the evening was Mr. Howard Marsh, Regius Professor of Surgery, University of Cambridge.

EXAMINATION RESULTS.

F.R.C.S. ENG., PRIMARY EXAMINATION.—A. E. Iles, W. Salisbury.

CONJOINT BOARD.—*Chemistry and Physics:* Louisa M. Lister. *Midwifery:* G. S. Applegate. *Surgery:* R. F. Bolt.*

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APPOINTMENTS.

Bristol Royal Infirmary.—S. H. Kingston, M.B., Ch.B. Bristol, has been appointed Senior Resident Officer.

Bristol General Hospital.—The following have been re-appointed:—G. Parker, M.A., M.D. Cantab., Honorary Physician; Newman Neild, M.B., Ch.B. Vict., Assistant Physician; F. G. Bergin, M.R.C.S., L.R.C.P., Skiagraphist.

* Completes examination.

Dr. Percival Mackie, of the India Medical Service, has been appointed Chemical Examiner Analyst, and Bacteriologist to the Government of the United and Central Provinces; headquarters, Agra.

Medical Library Report, 1911.—It will be of interest briefly to mention a few facts in connection with the past history of the Medical Library. The Library was first opened on January 5th, 1891, in a room placed at the disposal of the Medico-Chirurgical Society by the Literary and Philosophic Club at 28 Berkeley Square. Here the Library remained until July 5th, 1893, when the collection of books owned by the Society were transferred to a handsome, spacious room, especially constructed for a library, in the new Medical School buildings of the University College. Here the collection of books of the conjoined libraries of the Society and the University of Bristol has remained until the present year, when for a second time the books forming the Bristol Medical Library have been removed into another building, the Council of the University having fitted up the east wing of the old Blind Asylum for the accommodation of the Library.

The books, instead of being located in one large room, will now be distributed between four medium-sized rooms, one being assigned to bound periodicals. These changes will necessitate an entire re-arrangement of the books and the making of a fresh catalogue.

The Council of the University have promised to make a substantial yearly money grant to the Library Committee for the purchase of books.

A handsome pitchpine book-case of large dimensions has been presented to the Society by Dr. P. Watson-Williams; framed pictures and other donations of this kind would be gratefully accepted by the Library Committee on behalf of the Society.

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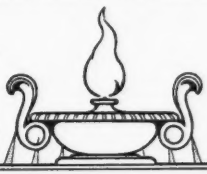

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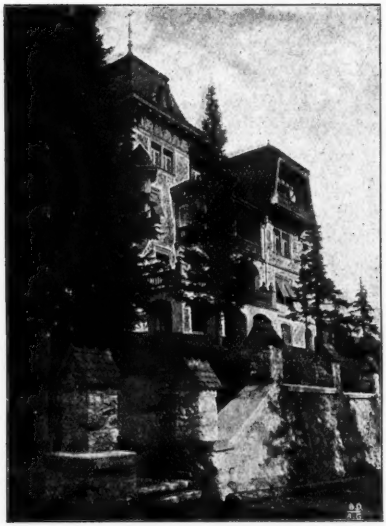

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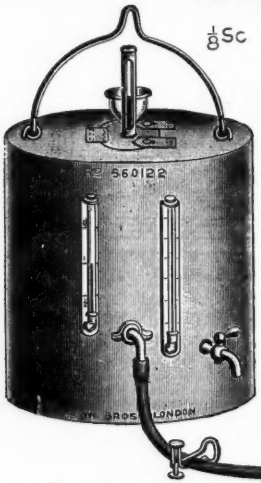

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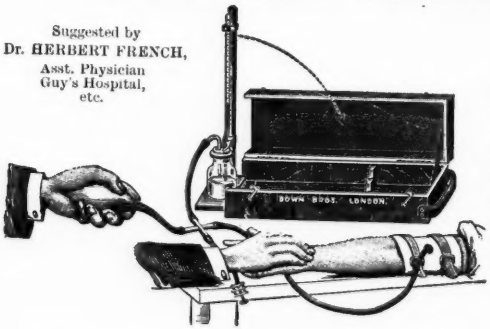

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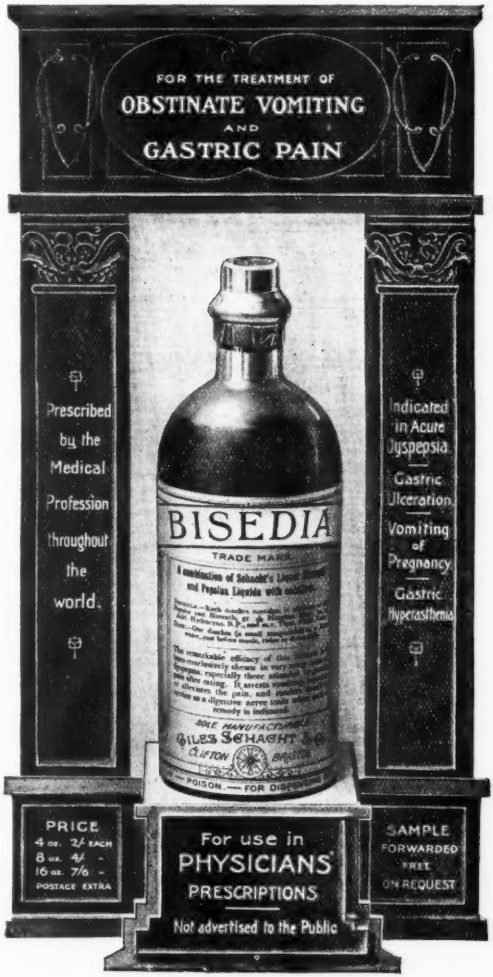
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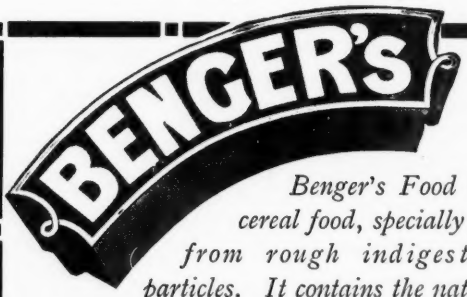

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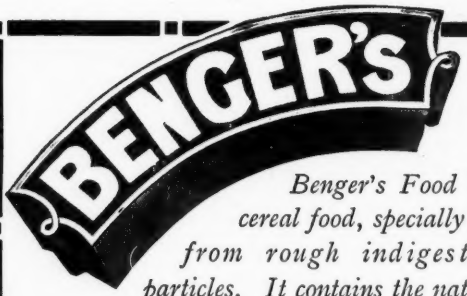

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